2200 Churchill Road, Springfield, Illinois 62706

Gen - Gary Holop

Important

Application for reissuance 5/1/1980 5/1/1985

217/782-0610

Crab Orchard National
Carterville, Illinois
NPDES Permit No. IL0004791
Reminder of Expiration Date

DEC 12 1979

Crab Orchard National
Post Office Box J
Carterville, Illinois 62918

Gentlemen:

Our records indicate that the subject NPDES permit expires on July 1, 1980. That permit requires that you submit a proper application for the re-issuance of the permit not later than 180 days prior to the expiration date.

For your convenience, we have enclosed application forms, which we believe to be appropriate for your situation, with instructions and other pertinent material. If you desire a set of forms other than those enclosed, or if you have other questions, please call me at the indicated telephone number.

Very truly yours,

Carol Houston

Carol Houston
Permit Section
Division of Water Pollution Control

CH:jw/1502b/1503b

Enclosures

cc: Records Unit (NPDES)

US EPA RECORDS CENTER REGION 5
423335

009951

NPDES UNIT PERMIT SECTION
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS · 62706
217/782-0610

Date Received by IEPA

RENEWAL OF NPDES APPLICATION

WPC-PS-3

1. Name of Applicant — Crab Orchard National Wildlife Refuge

2. Address of Applicant — P.O. Box J, Carterville, Illinois - 62918

   Telephone Number — 618/997-3344

3. Name of Facility — Refuge Sewage Treatment Plant

4. Existing NPDES Permit #IL — IL 0004791

   Date of Issuance — June 9, 1975

   Expiration Date — July 1, 1980

5. The map described in Item 3 of the instructions must accompany any renewal request unless it was submitted pursuant to the October 24, 1977 memorandum or the application will be deemed to be incomplete.

   Map already submitted? ___ Yes _x_ No

A. Indicate the following both here and on the map described in item 5 above.

   Specific location where effluent samples are taken. (See instructions for examples.)

   A. In the overflow chambers immediately following the chlorine contact tank.

B. Specific location where influent samples are taken. (See instructions for examples.)

   B. At the influent pipe as it enters the primary tank.

6. Has a substantial change in flow rates, production changes, degree of treatment or effluent quality taken place since the last NPDES Permit was issued? _x_ Yes ___ No. Less storm water infiltration due to most sewer lines being lined with plastic pipe in 1979.

7. I/We hereby request renewal of the NPDES Permit as indicated above.

Signature Wayne D. Adams

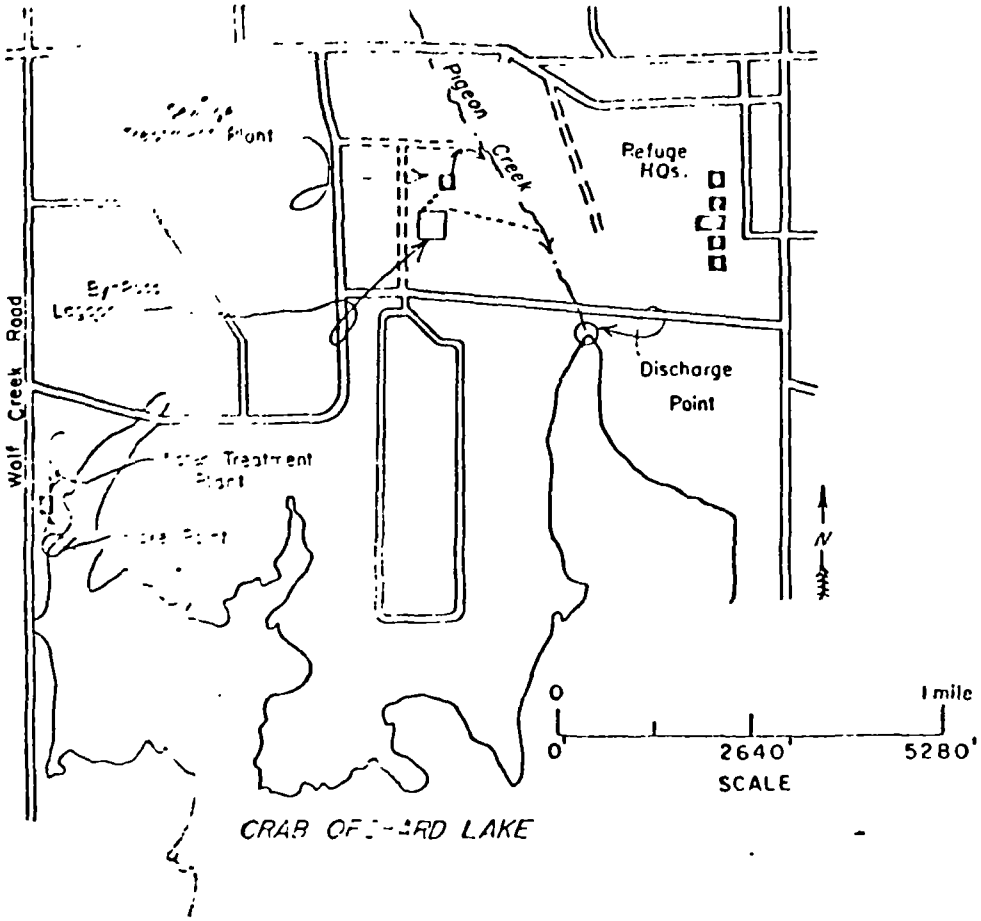
Printed Name of Person Signing Wayne D. Adams

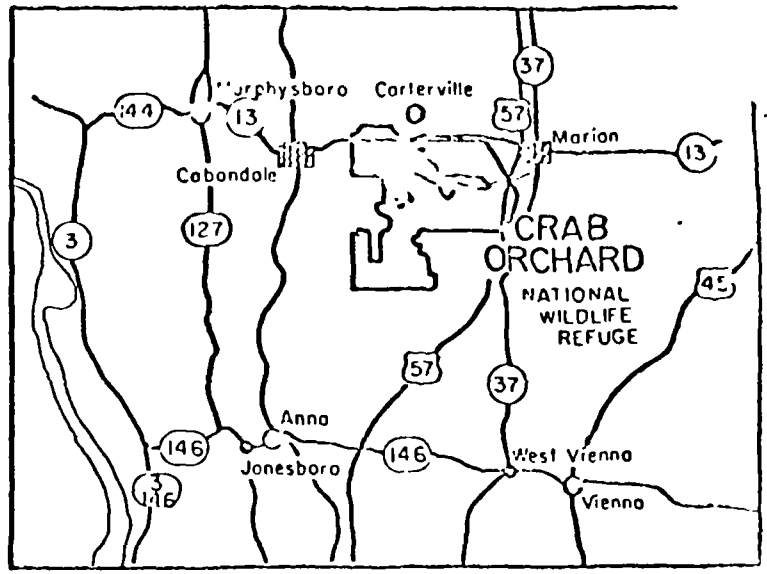
Title Project Manager

Dated 12/26/79

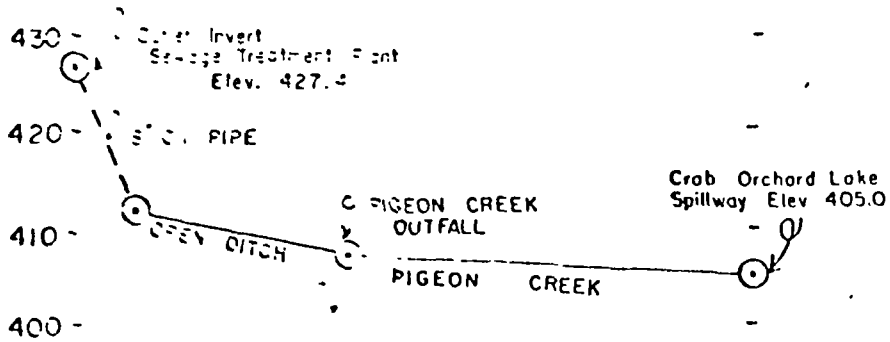
EPA man checking out permit:
Yogesh Sheth
217-782-0670
5/27/80 pkw

003952





VICINITY MAP



PROFILE

Existing Outfall & Discharge
in Crab Orchard Lake
at Crab Orchard N.W.R.
County of Williamson, State.... Ill.
Application by U.S. FISH and
WILDLIFE SERVICE DECEMBER 1979

009953

1. One discharge under this permit.
2. Crab Orchard National Wildlife Refuge Pigeon Creek discharge.
3. Domestic - Industrial discharge.
4. Continuous discharge.
5. 37° 43' 45" and 89° 02' 30".
6. NW¼, Section 19, T9S, R2E.
7. Williamson.
8. Pigeon Creek to Crab Orchard Lake.

Refuge sewage treatment plant, lagoons, and associated facilities. 78-B-15

FOR AGENCY USE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

SECTION I. APPLICANT AND FACILITY DESCRIPTION

Unless otherwise specified on this form all items are to be completed. If an item is not applicable indicate 'NA.'

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

Please Print or Type

1. Legal Name of Applicant (see instructions)	101	U. S. Fish and Wildlife Service Crab Orchard National Wildlife Refuge
2. Mailing Address of Applicant (see instructions) Number & Street	102a	P.O. Box J,
City	102b	Carterville,
State	102c	Illinois
Zip Code	102d	62918
3. Applicant's Authorized Agent (see instructions) Name and Title	103a	David W. Eubank Acting Regional Engineer
Number & Street Address	103b	Federal Building, Fort Snelling,
City	103c	Twin Cities
State	103d	Minnesota
Zip Code	103e	55111
Telephone	103f	612 (Area Code) 725-3550 (Number)
4. Previous Application If a previous application for a National or Federal discharge permit has been made, give the date of application. Use numeric designation for date.	104	71 12 10 (YR MO DAY)

I certify that I am familiar with the information contained in this application and that to the best of my knowledge and belief such information is true, complete, and accurate.

Wayne D. Adams Printed Name of Person Signing	102e	Project Manager Title
 Signature of Applicant or Authorized Agent	102f	79 12 20 (YR MO DAY) Date Application Signed

18 U.S.C. Section 1001 provides that:

Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and wilfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statement or representation, or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years, or both.

FOR AGENCY USE

Received ___ ___ ___ (YR MO DAY)

OFFICE: ___ EPA Region Number
___ State

EPA Form 7550-23 (7-73)

009955

This section contains 3 pages.

FOR AGENCY USE

5. Facility/Activity (see instructions) Give the name, ownership, and physical location of the plant or other operating facility where discharge(s) does or will occur.

Name	105a	Crab Orchard Refuge Sewage Treatment Plant
Ownership (Public, Private or Both Public and Private)	105b	☒ PUB ☐ PRV ☐ BPP
Check block if Federal Facility and give GSA Inventory Control Number	105c	☒ FED
	105d	N.A. U. S. Fish and Wildlife Service Property Number 340.
Location		
Street & Number	105e	N.W.¼, Section 19, T9S, R2E.
City	105f	Carterville
County	105g	Williamson
State	105h	Illinois

6. Nature of Business State the nature of the business conducted at the plant or operating facility.

	106a	Sewage treatment plant to serve small industries located on Refuge lands and three adjacent institutions.
	106b	AGENCY USE

7. Facility Intake Water (see instructions) Indicate water intake volume per day by sources. Estimate average volume per day in thousand gallons per day.

Municipal or private water system	107a	_____ thousand gallons per day
Surface water Crab Orchard Lake.	107b	400 thousand gallons per day
Groundwater	107c	_____ thousand gallons per day
Other*	107d	_____ thousand gallons per day
Total Item 7	107e	400 thousand gallons per day
*If there is intake water from 'other,' specify the source.	107f	

8. Facility Water Use Estimate average volume per day in thousand gallons per day for the following types of water usage at the facility. (see instructions)

Noncontact cooling water	108a	_____ thousand gallons per day
Boiler feed water	108b	_____ thousand gallons per day
Process water (including contact cooling water)	108c	100 thousand gallons per day
Sanitary water	108d	300 thousand gallons per day
Other*	108e	_____ thousand gallons per day
Total Item 8	108f	400 thousand gallons per day
*If there are discharges to 'other,' specify.	108g	
If there is 'Sanitary' water use, give the number of people served.	108h	1,500 people served

EPA Form 7550-23 (7-73)

003956

FOR AGENCY USE

9. All Facility Discharges and other Losses; Number and Discharge (see instructions) Volume Specify the number of discharge points and the volume of water discharged or lost from the facility according to the categories below. Estimate average volume per day in thousand gallons per day.

		Number of Discharge Points		Total Volume Used or Discharged, Thousand Gal/Day
Surface Water	109a1	1	109a2	400
Sanitary wastewater transport system	109b1		109b2	
Storm water transport system	109c1		109c2	
Combined sanitary and storm water transport system	109d1		109d2	
Surface impoundment with no effluent	109e1		109e2	
Underground percolation	109f1		109f2	
Well injection	109g1		109g2	
Waste acceptance firm	109h1		109h2	
Evaporation	109i1		109i2	
Consumption	109j1		109j2	
Other*	109k1		109k2	
Facility discharges and volume Total Item 9.	109l1	1	109l2	400
*If there are discharges to 'other,' specify.	109m1			

10. Permits, Licenses and Applications
List all existing, pending or denied permits, licenses and applications related to discharges from this facility (see instructions).

	Issuing Agency	For Agency Use	Type of Permit or License	ID Number	Date Filed YR/MO/DA	Date Issued YR/MO/DA	Date Denied YR/MO/DA	Expiration Date YR/MO/DA
110	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1.	US/ILL		NPDES					
	EPA		discharge	IL 4791	71-12-10	75-6-9		80-7-1
2.								
3.								

11. Maps and Drawings
Attach all required maps and drawings to the back of this application. (see instructions)

12. Additional Information

See: RENEWAL OF NPDES APPLICATION section

112 Item Number	Information
9	Discharge is for treated effluent.

003357

FOR AGENCY USE

Municipal Storm Water Transport System		☐ STS
Well (injection)		☐ WEL
Other		☐ OTH
If 'other' is checked, specify	205b	

6. Discharge Point — Lat/Long Give the precise location of the point of discharge to the nearest second.

Latitude	206a	37 DEG 43 MIN 45 SEC
Longitude	206b	89 DEG 02 MIN 30 SEC

7. Discharge Receiving Water Name Name the waterway at the point of discharge (see instructions)

207a: Unnamed ditch to Pigeon Creek and to Crab Orchard Lake (see map).

If the discharge is through an outfall that extends beyond the shoreline or is below the mean low water line, complete Item 8.

For Agency Use				For Agency Use
Major	Minor	Sub		303e
			207c	

207b

8. Offshore Discharge

a. Discharge Distance from Shore	208a	_____ feet N.A.
b. Discharge Depth Below Water Surface	208b	_____ feet

9. Discharge Type and Occurrence

a. Type of Discharge Check whether the discharge is continuous or intermittent. (see instructions)	209a	☒ (con) Continuous ☐ (int) Intermittent
b. Discharge Occurrence Days per Week Enter the average number of days per week (during periods of discharge) this discharge occurs.	209b	7 days per week
c. Discharge Occurrence —Months If this discharge normally operates (either intermittently, or continuously) on less than a year-around basis (excluding shutdowns for routine maintenance), check the months during the year when the discharge is operating. (see instructions)	209c	☐ JAN ☐ FEB ☐ MAR ☐ APR N.A. ☐ MAY ☐ JUN ☐ JUL ☐ AUG ☐ SEP ☐ OCT ☐ NOV ☐ DEC

Complete Items 10 and 11 If "intermittent" is checked in Item 9.a. Otherwise, proceed to Item 12.

10. Intermittent Discharge Quantity State the average volume per discharge occurrence in thousands of gallons.

210: _____ thousand gallons per discharge occurrence. N.A.

11. Intermittent Discharge Duration and Frequency

a. Intermittent Discharge Duration Per Day State the average number of hours per day the discharge is operating.	211a	____ hours per day N.A.
b. Intermittent Discharge Frequency State the average number of discharge occurrences per day during days when discharging.	211b	____ discharge occurrences per day N.A.

12. Maximum Flow Period Give the time period in which the maximum flow of this discharge occurs.

212: From March to May

EPA Form 7550-7 (7-73)

009358

FOR AGENCY USE

13. Activity Description Give a narrative description of activity producing this discharge.(see instructions)

213a U. S. Prison of 500 inmates produces domestic waste from sanitary, laundry, kitchen systems. Domestic waste comes from vocational education schools. The main industrial tenants and their products produced are shown in Number 14.

14. Activity Causing Discharge For each SIC Code which describes the activity causing this discharge, supply the type and maximum amount of either the raw material consumed (Item 14a) or the product produced (Item 14b) in the units specified in Table I of the instruction Booklet. For SIC Codes not listed in Table I, use raw material or production units normally used for measuring production.(see instructions)

a. Raw Materials

214a	SIC Code (1)	Name (2)	Maximum Amount/Day (3)	Unit (See Table I) (4)	Shared Discharges (Serial Number) (5)
	4952	Domestic waste	1,500		None

b. Products

214b	SIC Code (1)	Name (2)	Maximum Amount/Day (3)	Unit (See Table I) (4)	Shared Discharges (Serial Number) (5)
		Diagraph - Mfg.	stencil machines		None -
		Midwest Brush -	Clean/plate metal		None -
		Olin Corp. -	War materials		None -
		U. S. Prison -	print shop		None - sanitary/industrial 5,000 gal/day.

Ext. 213 Contact R. Alcr Kruse

003359

001

FOR AGENCY USE

15. Waste Abatement

a. Waste Abatement Practices
Describe the waste abatement practices used on this discharge with a brief narrative. (see instructions)

215a Narrative: Plant is activated sludge with primary settling tank. Mixing aerators are used to create bacteria. Material goes to clarifier to settle out sludge solids. Return sludge pumps feed sludge back to aerators. Materials goes from clarifier to chlorine chamber to effluent. Excess sludge is pumped to digester for process (circulating hot water heat), and final product is placed on sludge drying beds.

b. Waste Abatement Codes
Using the codes listed in Table II of the instruction Booklet, describe the waste abatement processes ~~for this discharge~~ in the order in which they occur if possible.

215b

(1) BACTIV	(2) PSEDIM	(3) PSKIMC
(4) CCLDIS	(5) SANAER	(6) SLAGOO
(7)	(8)	(9)
(10)	(11)	(12)
(13)	(14)	(15)
(16)	(17)	(18)
(19)	(20)	(21)
(22)	(23)	(24)
(25)		

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

17. Description of Intake and Discharge

For each of the parameters listed below, enter in the appropriate box the value or code letter answer called for.(see instructions)

In addition, enter the parameter name and code and all required values for any of the following parameters if they were checked in item 16; ammonia, cyanide, aluminum, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, phenols, oil and grease, and chlorine (residual).

Parameter and Code 217a	Influent		Effluent					
	Untreated Intake Water (Daily Average) (1)	In-Plant Treated Intake Water (Daily Average) (2)	Daily Average (3)	Minimum Value Observed or Expected During Discharge Activity (4)	Maximum Value Observed or Expected During Discharge Activity (5)	Frequency of Analysis (6)	Number of Analyses (7)	Sample Type (8)
Flow* ~~Gallons per day~~ MGD ~~00056~~ 50050	0.4	0.4	0.3	0.1	0.4	1/7	52	24
pH Units 00400	7.4	7.6	X	6.6	8.2	1/7	52	24
Temperature (winter) °F 74028 Low average	48.9	48.9	50					
Temperature (summer) °F 74027 High average	73.4	73.4	68					
Biochemical Oxygen Demand (BOD 5-day) mg/l 00310	36	32	6	2	8	1/7	52	24
Chemical Oxygen Demand (COD) mg/l 00340	15	10	11	7	70	1/7	52	24
Total Suspended (nonfilterable) Solids mg/l 00530	8	2	4	2	9	1/7	52	24
Specific Conductance micromhos/cm at 25° C 00095 UMHOS	250	300	X					
Settleable Matter (residue) ml/l 00545								

*Other discharges sharing intake flow (serial numbers).(see instructions)

FOR AGENCY USE

16. Wastewater Characteristics

Check the box beside each constituent which is present in the effluent (discharge water). This determination is to be based on actual analysis or best estimate.(see instructions)

Parameter 1216	Present	Parameter 1216	Present
Color 00080	X	Copper 01042	
Ammonia 00610	X	Iron 01045	X
Organic nitrogen 00605		Lead 01051	
Nitrate 00620	X	Magnesium 00927	X
Nitrite 00615	X	Manganese 01055	X
Phosphorus 00665	X	Mercury 71900	X
Sulfate 00945	X	Molybdenum 01062	X
Sulfide 00745	X	Nickel 01067	
Sulfite 00740	X	Selenium 01147	
Bromide 71870	X	Silver 01077	
Chloride 00940	X	Potassium 00937	
Cyanide 00720		Sodium 00929	X
Fluoride 00951	X	Thallium 01059	
Aluminum 01105		Titanium 01152	X
Antimony 01097		Tin 01102	
Arsenic 01002		Zinc 01092	X
Beryllium 01012	X	Algicides* 74051	
Barium 01007	X	Chlorinated organic compounds* 74052	
Boron 01022	X	Pesticides* 74053	
Cadmium 01027	X	Oil and grease 00550	X
Calcium 00916		Phenols 32730	X
Cobalt 01037		Surfactants 38260	X
Chromium 01034	X	Chlorine 50060	X
Fecal coliform bacteria 74055	X	Radioactivity* 74050	

*Specify substances, compounds and/or elements in Item 26.

Pesticides (insecticides, fungicides, and rodenticides) must be reported in terms of the acceptable common names specified in *Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels*, 2nd Edition, Environmental Protection Agency, Washington, D.C. 20250, June 1972, as required by Subsection 162.7(b) of the Regulations for the Enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act.

FOR AGENCY USE

17. (Cont'd.)

Parameter and Code 217a	Influent		Effluent					
	Untreated Intake Water (Daily Average) (1)	In-Plant Treated Intake Water (Daily Average) (2)	Daily Average (3)	Minimum Value Observed or Expected During Discharge Activity (4)	Maximum Value Observed or Expected During Discharge Activity (5)	Frequency of Analysis (6)	Number of Analyses (7)	Sample Type (8)
Ammonia 00610	.03	.01			<1			
Cadmium 01027	.14	.14	.0003	0	.001	1/30	12	24
Chromium 01034			.08	.02	.12	1/30	12	24
Mercury 71900	<1	<1	.0005	.0002	.001	1/30	12	24
Zinc 01092	.3	.3	.15	.06	.26	1/30	12	24
Phenols 32730	.24	.20	.002	.001	.005	1/30	12	24
Oil-grease 00550			3.0	.1	6.6	1/30	12	24
Chlorine-res. 50060			.4	.2	.61	1/7	52	GR
Phosphorus 00665	8.0	8.0	3.0	1.0	7.3	1/30	12	24

18. **Plant Controls** Check if the following plant controls are available for this discharge. 218

1971-1976

Alternate power source for major pumping facility. ☐ APS

Alarm or emergency procedure for power or equipment failure ☒ ALM (Chlorine detector alarm only)

Complete item 19 if discharge is from cooling and/or steam water generation and water treatment additives are used.

19. **Water Treatment Additives** If the discharge is treated with any conditioner, inhibitor, or algicide, answer the following: N.A.

a. Name of Material(s) 219a _____

b. Name and address of manufacturer 219b _____

c. Quantity (pounds added per million gallons of water treated). 219c _____

EPA Form 7550-2? (7-73)

FOR AGENCY USE

d. Chemical composition of these additives (see instructions).	219d	

Complete items 20-25 if there is a thermal discharge (e.g., associated with a steam and/or power generation plant, steel mill, petroleum refinery, or any other manufacturing process) and the total discharge flow is 10 million gallons per day or more. (see instructions)

N.A.

20. Thermal Discharge Source Check the appropriate item(s) indicating the source of the discharge. (see instructions)	220	
Boiler Blowdown		☐ BLBD
Boiler Chemical Cleaning		☐ BCCL
Ash Pond Overflow		☐ APOF
Boiler Water Treatment — Evaporator Blowdown		☐ EPBD
Oil or Coal Fired Plants — Effluent from Air Pollution Control Devices		☐ OCFP
Condense Cooling Water		☐ COND
Cooling Tower Blowdown		☐ CTBD
Manufacturing Process		☐ MFPR
Other		☐ OTHR
21. Discharge/Receiving Water Temperature Difference		
Give the maximum temperature difference between the discharge and receiving waters for summer and winter operating conditions. (see instructions)		
Summer	221a	_____ °F.
Winter	221b	_____ °F.
22. Discharge Temperature, Rate of Change Per Hour	222	_____ °F./hour
Give the maximum possible rate of temperature change per hour of discharge under operating conditions. (see instructions)		
23. Water Temperature, Percentile Report (Frequency of Occurrence)		
In the table below, enter the temperature which is exceeded 10% of the year, 5% of the year, 1% of the year and not at all (maximum yearly temperature). (see instructions)		

Frequency of occurrence		10%	5%	1%	Maximum
a. Intake Water Temperature (Subject to natural changes)	223a	°F	°F	°F	°F
b. Discharge Water Temperature	223b	°F	°F	°F	°F

24. Water Intake Velocity (see instructions)	224	_____ feet/sec.
25. Retention Time Give the length of time, in minutes, from start of water temperature rise to discharge of cooling water. (see instructions)	225	_____ minutes

OMB No. 158-R0100

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

26. Additional Information

226 Item	Information
General	The following are changes which affect the sewage treatment plant operation and effluent:
	1. Renovation - In 1976 the entire treatment plant was renovated and new equipment installed.
	2. Testing - In 1977 the Refuge began taking monthly effluent samples to the City of Carbondale Central Lab for test analysis.
	3.Elimination - In 1978 lift station number 5 (there are seven lift stations) and 11,000 feet of sewer line were abandoned.
	4. Improvement - In 1978, 10,000 feet of 10" sewer line and 9,000 feet of 12" sewer line were slip-lined with polyethylene pipe to reduce storm water infiltration. Also, 3,700 feet of 6" force main was rebuilt.
	5. Elimination - In July 1980, lift station number 1 and 1,000 feet of sewer line serving 15 residences will be eliminated. The houses are to be sold and removed from government property.
	6. Flow - Amount of flow into the sewage treatment plant has been reduced from a maximum of approximately 700,000 gallons per day in 1972 to the present 400,000 gallons per day. The reduction is due to decreased industrial operations on the Refuge and the sewer lining project.
	Influent results are from 1971 and 1976 testing. Effluent results are from 1978-79 monthly test results.
	Please refer to our 11/18/78 letter to the U. S. EPA and effluent test results (copy attached). We would still like consideration for changing metals testing from monthly to bi-annually and for parameter changes for chloride, nitrate, and phosphorus (amounts shown in 11/18/78 letter).

EPA Form 7550-3 (7-73)

003365

GPO 906-014

November 18, 1977

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

Attn: Compliance Unit, Enforcement Division.

Gentlemen:

Re: NPDES Permit IL0004791.

Notice of non-compliance with the above permit is hereby being given your office. Table I attached shows permit requirements and past test results. Also included are recommendations for bringing this waste water treatment plant operation into compliance.

A permit variance is being requested for the following metals:

Chloride from a daily maximum of 45 to 300 mg/l (daily average to 200). This is within the Illinois EPA standard of 500 mg/l. Past testing shows chlorides at this plant to have a daily maximum of between 50 and 250 mg/l.

Nitrate from a daily maximum of 7 to 25 mg/l (daily average to 15). The Illinois EPA standard is 40 mg/l. Past testing shows nitrates to have a daily maximum of between 5 and 20 mg/l.

Phosphorus from a daily maximum of 0.5 to 1.0 mg/l (daily average to 0.8). This would meet Illinois EPA standards. Past testing shows phosphorus to be between 3 and 10 mg/l.

The U. S. Fish and Wildlife Service proposes to make treatment plant modifications to get phosphorus below 1.0 mg/l.

In addition to the above, the U. S. Fish and Wildlife Service is requesting that the measurement frequency for metals testing be changed from a monthly basis to once every six months FWS testing equipment is not adequate, and not all metals under permit are being tested Cost of all now approved equipment or of monthly outside testing is prohibitive at present. If metal testing is on a semi-annual basis, FWS could provide funds for professional testing by an outside agency, an independent lab such as the one in the City of Carbondale. FWS testing would continue at more frequent intervals to monitor plant operation. FWS would continue to run the weekly tests required. The Refuge is working through the State lab at Marion, Illinois to purchase EPA approved lab materials for the weekly tests.

This section contains ...

In summary, the U. S. Fish and Wildlife Service is requesting that EPA waste water discharge permit IL0004791 be changed so that daily maximums be raised for chloride, nitrate, and phosphorus. FWS will make treatment plant modifications to bring phosphorus discharge below 1.0 mg/l. Also, FWS requests that the monthly measurement frequency for metals be changed to a semi-annual basis.

The FWS will have the semi-annual testing done by an approved independent lab, such as that in the City of Carbondale. The Refuge will purchase approved lab testing supplies to conduct all required weekly testing.

Your review of the above request will be appreciated.

Sincerely,

Gerald H. Updike,
Acting Project Manager.

Attachment (Table I)

GHU:bd

003367

This section ...

TABLE I. Effluent Characteristics and Various Test Results for Crab Orchard National Wildlife Refuge, Waste Water Treatment Plant.

Effluent Characteristics	1. Daily Average	Daily Maximum	Measure Frequency	2. U.S. EPA 6/76	3. U.S. FWS 6/77	4. Carbondale 9/77	5. Ill. Sta
Flow (MGD)	.4	.7	Weekly	.316	.337	-	-
BOD	4	5	Weekly	2	5	2.7	1
COD	15	25	Weekly	18	-	18	-
Suspended Solids	4	5	Weekly	5	5	3.7	1
Residual Chlorine	-	.5	Weekly	.61	1.0	.57	-
Fecal Coliform Bacteria	200	400	Weekly	10	-	4	40
Cadmium	.01	.02	Monthly	.012	-	.002	
Chlorine	30	45	Monthly	98	80	168	50
Chromium, total	.1	.2	Monthly	.007	0	.0015	[illegible]
Iron	.2	.3	Monthly	.078	0	.12	[illegible]
Mercury	.0005	.0005	Monthly	.0002	-	.0003	.0
Nitrate (N)	5	7	Monthly	-	9	17.8	-
Oil and Grease	10	15	Monthly	5	-	0	15
Phenols	.2	.3	Monthly	.002	-	0	
Phosphorus (P)	.3	.5	Monthly	3.72	5	10.4	1
Sulfate	250	300	Monthly	234	575	.102	-
Zinc	.4	.5	Monthly	.061	-	.07	1
Ph	6.5 - 8.5			7.4	7.3	7.06	5-1

003368

1. Permit Number IL 0004791 for 7/1/77 through 5/1/80.

2. U. S. Environmental Protection Agency results of 6/9 - 10/76. Reported in letter of 8/2/76 from U. S. EPA Chief Ronald Mustard to Illinois EPA Director.

3. U. S. Fish and Wildlife Service (Crab Orchard Refuge) personnel test results as reported for 6/77.

4. City of Carbondale lab test results from sample taken 9/7/77.

5. Illinois EPA Standards from Illinois Pollution Control Board Rules and Regulations, Chapter 3, page 17, Water Pollution.

FOR AGENCY USE

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

N.A.

SECTION III. WASTE ABATEMENT REQUIREMENTS & IMPLEMENTATION (CONSTRUCTION) SCHEDULE

This section requires information on any uncompleted implementation schedule which may have been imposed for construction of waste abatement facilities. Such requirements and implementation schedules may have been established by local, State, or Federal agencies or by court action. In addition to completing the following items, a copy of an official implementation schedule should be attached to this application. IF YOU ARE SUBJECT TO SEVERAL DIFFERENT IMPLEMENTATION SCHEDULES, EITHER BECAUSE OF DIFFERENT LEVELS OF AUTHORITY IMPOSING DIFFERENT SCHEDULES (Item 1a.) AND/OR STAGED CONSTRUCTION OF SEPARATE OPERATION UNITS (Item 1c), SUBMIT A SEPARATE SECTION III FOR EACH ONE.

FOR AGENCY USE
SCHED. NO._____

1. Improvements	300	
a. Discharge Serial Number Affected List the discharge serial numbers, assigned in Section II, that are covered by this implementation schedule.	301a	_____, _____, _____ _____, _____, _____
b. Authority Imposing Requirements Check the appropriate item indicating the authority for implementation schedule. If the identical implementation schedule has been ordered by more than one authority, check the appropriate items. (see instructions)		
Locally developed plan	301b	☐LOC
Areawide Plan		☐ARE
Basic Plan		☐BAS
State approved implementation schedule		☐SQS
Federal approved water quality standards implementation plan.		☐WQS
Federal enforcement procedure or action		☐ENF
State court order		☐CRT
Federal court order		☐FED
c. Facility Requirement. Specify the 3-character code of those listed below that best describes in general terms the requirement of the implementation schedule and the applicable six-character abatement code(s) from Table II of the Instruction booklet. If more than one schedule applies to the facility because of a staged construction schedule, state the stage of construction being described here with the appropriate general action code. Submit a separate Section III for each stage of construction planned.	301c	3-character (general) _____
	301d	6-character (specific) (see Table II) _____ _____ _____

New Facility	NEW
Modification (no increase in capacity or treatment)	MOD
Increase in Capacity	INC
Increase in Treatment Level	INT
Both Increase in Treatment Level and Capacity	ICT
Process Change	PRO
Elimination of Discharge	ELI

003370

This section of the ...

FOR AGENCY USE

2. Implementation Schedule and 3. Actual Completion Dates

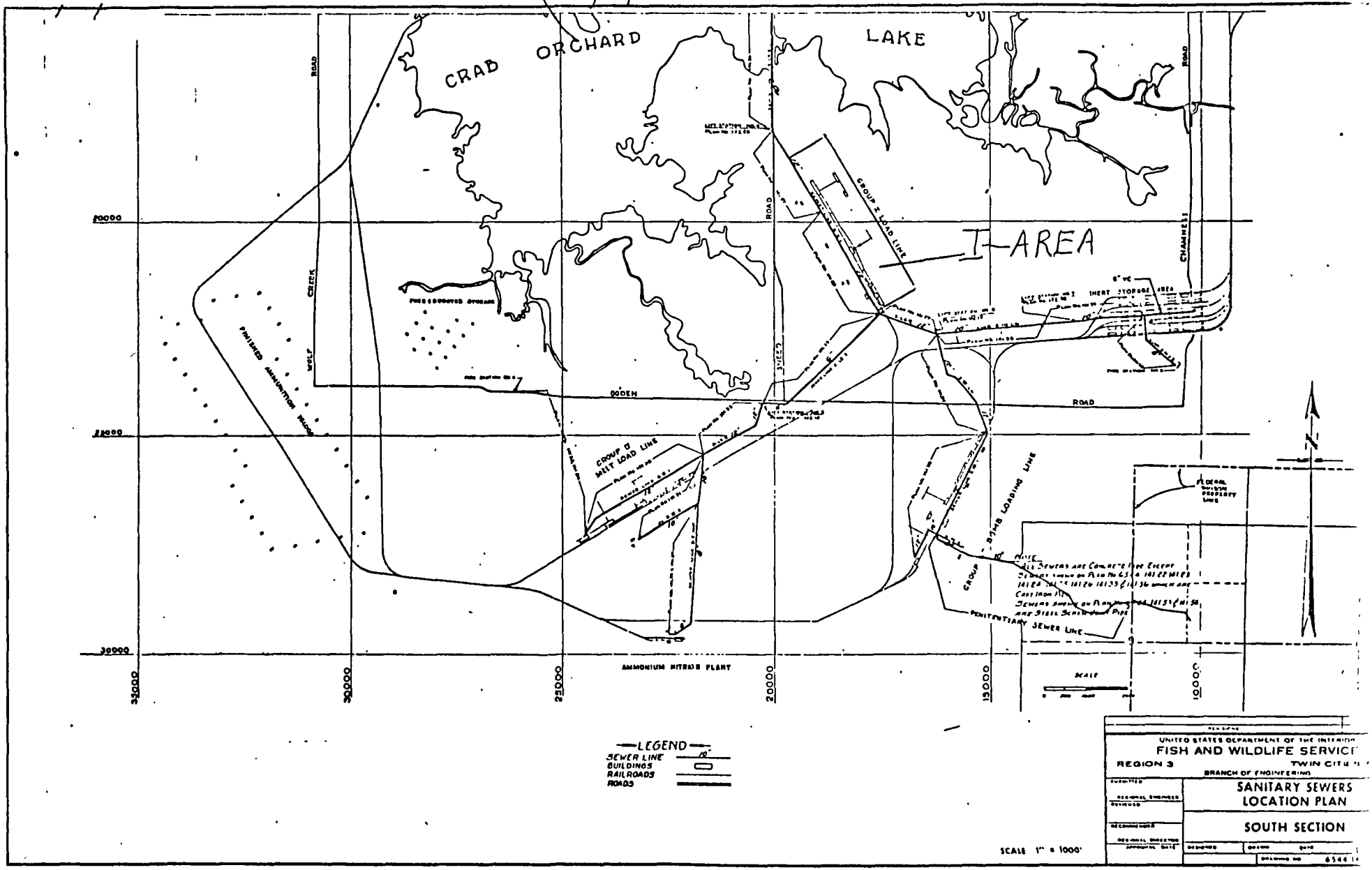
Provide dates imposed by schedule and any actual dates of completion for implementation steps listed below. Indicate dates as accurately as possible. (see instructions)

Implementation Steps		2. Schedule (Yr./Mo./Day)		3. Actual Completion (Yr./Mo./Day)
a. Preliminary plan complete	302a	____/____/____	303a	____/____/____
b. Final plan submission	302b	____/____/____	303b	____/____/____
c. Final plan complete	302c	____/____/____	303c	____/____/____
d. Financing complete & contract awarded	302d	____/____/____	303d	____/____/____
e. Site acquired	302e	____/____/____	303e	____/____/____
f. Begin action (e.g., construction)	302f	____/____/____	303f	____/____/____
g. End action (e.g., construction)	302g	____/____/____	303g	____/____/____
h. Discharge Began	302h	____/____/____	303h	____/____/____
i. Operational level attained	302i	____/____/____	303i	____/____/____

Attachment 5

SANITARY SEWER MAPS

B, F&P AREAS.



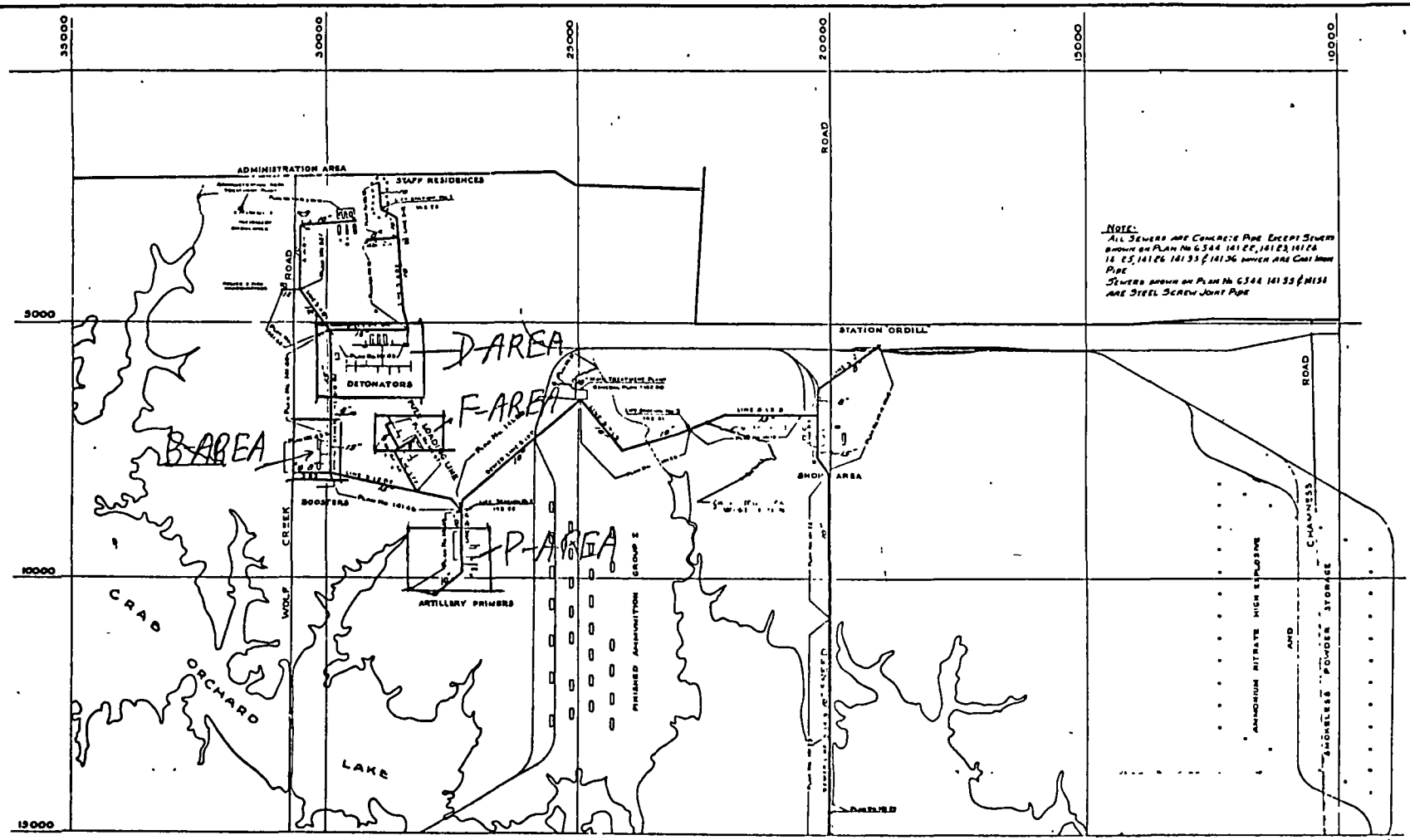
UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
REGION 3 TWIN CITIES
BRANCH OF ENGINEERING

SANITARY SEWERS
LOCATION PLAN

SOUTH SECTION

DRAWING NO. 6544

0033873



UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
REGION 3 TWIN CITIES
BRANCH OF ENGINEERING

SANITARY SEWERS
LOCATION PLAN

NORTH SECTION

DRAWING NO 6544

003274

bcc: R. D. Altekruse
J. E. Redden

ENERGY SYSTEMS DIVISION Olin
P O DRAWER G MARION ILLINOIS 62959 • PHONE AC 618 985 3721

Engineering & Development

June 23, 1975

Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Attention: Mr. Keith Conklin,
Manager Permits Section

Reference: Boiler Operating Permits 03030349
03030350
03030352
03030353
03030354
03030718
03030719
03030720
03032587

Dear Sir:

Renewal applications were recently submitted to your office for the above referenced Boiler Operating Permits. These applications were denied by letters dated June 10, 1975, on the basis that provisions of the PCB Regulations, Chapter 2, Rule 204(c)(2)(B) might be violated.

A study of these applications has revealed that earlier Operating Permit applications, incorporated by reference in the renewal applications, had erroneously listed BTU content of the fuel oil being fired as 18,900 BTU per pound. Actual properties of the #2 fuel oil now being fired are 0.29 maximum percent by weight sulfur and 139,000 BTU per gallon.

If SO_2 emissions are calculated by method AP-42, the following results are obtained:

$$\frac{1,000,000 \text{ BTU}}{139,000 \text{ BTU/gal}} = 7.194 \text{ gal/million BTU}$$

0.29 x 0.142 = 0.04118 pounds of SO_2/gal.

7.194 x 0.04118 = 0.296 pounds of SO_2/million BTU.

This value is in compliance with Rule 204(c)(2)(B).

Submitted herewith, in line with the above explanation, are two copies each of amended applications for renewal of the referenced permits.

Very truly yours,

O L I N

R. D. Altekruse

RDA/djm

Enclosures

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

001473

CERTIFICATE OF AUTHORITY

I, Patrick O. Boyle, an assistant secretary of Olin Corporation, hereby certify that the attached Grant of Operating Authority, effective January 22, 1974, is correct and applicable to Paul C. Weisman.

The renewal applications for boiler operating permits attached hereto are executed in accordance with the authority granted.

Original Signed By
P. O. BOYLE

SEAL

Assistant Secretary
Olin Corporation

Dated: July 8, 1975

001474

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

2200 Churchill Road
62706

Springfield, Illinois
Phone: (217) 782-2113

Dr Richard H Briceland, Director

CERTIFIED MAIL

June 10, 1975

OLIN CORPORATION
P. O. Drawer G
Marion, Illinois 62959

Attention: Mr. R. D. Altekruse

Reference

Application No.	- 0 3 03 0720	
I. D. No.	- 199 862 AAB	Boil P-1-1
Received	- May 2, 1975	
Operation of	- Boiler #P-1-1	
Location	- Crab Orchard Refuge Marion, Illinois	
County	- Williamson	

Gentlemen:

Pursuant to the requirements of the Environmental Protection Act (Act) and the Regulations thereunder the Agency has reviewed the above-referenced permit application and as final action pursuant to Section 39 of the Act hereby denies the permit. The reasons the permit application is denied are below.

The provisions of the PCB Regs., Chapter 2, Rule 204(c)(2)(B) may be violated if the permit were granted.

As required by Section 39 of the Act the following is a statement of specific reasons why the Act and the Regulations cited above might not be met.

> The Boiler will emit sulfur dioxide in excess of the 0.3 pounds per million BTU of actual heat input allowed for a fuel combustion emission source under Rule 204(c)(2)(B). Based upon the data submitted, our assessment of your operation indicates an emission rate of .307 pounds of sulfur dioxide per million BTU of actual heat input. This emission rate is in excess of that allowed by Rule 204(c)(2)(B).

If we can be of any assistance regarding this or other permit related matters, please contact us.

Very truly yours,

Keith J. Conklin, P.E.
Manager, Permit Section
Division of Air Pollution Control

001475

HBD:1kk

100% recycled paper

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

INSTRUCTIONS FOR FILING A VARIANCE PETITION

WHAT IS A VARIANCE?

A variance is a grant of permission to exceed the limitations of the Environmental Protection Act and/or rules, regulations, requirements or orders of the Pollution Control Board. Variances are granted ONLY BY THE POLLUTION CONTROL BOARD.

WHAT IS THE DURATION OF A VARIANCE?

The Board can grant a variance for a period of time UP TO ONE YEAR.

DO I QUALIFY FOR A VARIANCE?

Only the Board can grant a variance. The Board will grant a variance if and only if the Petitioner presents adequate proof that compliance with the Act, rule, regulation, requirement or order of the Board would impose an arbitrary or unreasonable hardship. The burden of proof as to whether the variance should be granted is on the Petitioner.

HOW DO I FILE FOR A VARIANCE?

You must file a petition for variance with the Environmental Protection Agency and also file ten copies of that petition with the Clerk of the Board.

WHAT SHOULD THE PETITION CONTAIN?

The petition should contain:

1) A concise statement of the facts upon which the variance is requested, including,

   a. a description of the business or activity in question;
   b. the quantity and type of raw materials processed;
   c. an estimate of the quantity and type of contaminants discharged;
   d. a description of existing and proposed equipment for the control of discharges, and;
   e. a timetable for bringing the activity into compliance.

2) A concise statement that explains why you believe that compliance with the provision from which you are seeking the variance would impose an arbitrary or unreasonable hardship, and including a description of the cost that compliance would impose on you and others and of the injury that a grant of the variance would impose on the public, (emphasis supplied)

3) A clear statement of the precise extent of relief that you seek.

100 % Recycled Paper

HOW DO I "WRITE UP" A VARIANCE PETITION?

Your petition need not be a formal document, as long as it contains the required information, as specified above. You may find it helpful to have your attorney assist you in preparing the petition. We emphasize, however, that you are not obliged to do so.

The form of the documents that you file is determined by The Illinois Pollution Control Board Rules and Regulations, Chapter 1: Procedural Rules. Rule 104 reads as follows:

> Form of Documents. (a) Documents shall clearly show the file or docket number and the title of the proceeding in connection with which they are filed.
>
> (b) Except as otherwise provided, ten copies of all documents including complaints, motions, petitions and notices of appeal shall be filed with the Clerk.
>
> (c) Documents shall be typewritten or reproduced from typewritten copy on unglazed white paper of greater than 12 pound weight and measuring 8" x 10½" or 8½" x 11". Reproductions may be made by carbon or electrostatic copying machine or any other process that produces legible black-on-white copies. All documents shall be fastened on the left side or in the upper left hand corner. The left margin of each page shall be at least 1½ inches and the right margin at least 1 inch.
>
> (d) One copy of each document filed shall be signed by the party or by his authorized representative or attorney.

WHERE DO I SEND MY PETITIONS?

As previously noted, you should send your petition to the Environmental Protection Agency and ten copies to the Pollution Control Board. The appropriate addresses are as follows:

1) Environmental Protection Agency
   Division of Air Pollution Control
   Variance Section
   2200 Churchill Road
   Springfield, Illinois 62706 (4 copies preferred)
   Phone: 217/525-5811

2) Pollution Control Board
   309 West Washington Street
   Chicago, Illinois 60606 (10 copies preferred)
   Phone: 312/793-3622

HOW LONG WILL IT BE BEFORE THE BOARD ACTS ON MY PETITION?

Section 39 of the Environmental Protection Act provides that the Board must take final action upon a variance request within 90 days after the filing of the petition. If the Board fails to take such action, the petition is deemed to be granted.

DO I STILL NEED A PERMIT IF I HAVE A VARIANCE?

If you are required to have a permit by the Rules and Regulations, having a valid variance or applying for a variance does not relieve you of that obligation. If you have a variance which allows you to file operating permit applications at a later date, you need not file these operating permit applications covered by the variance until the date specified in the variance.

OTHER IMPORTANT INFORMATION.

Title 9 of the Environmental Protection Act contains specific provisions that deal with variances. A copy may be obtained by writing to the Agency at the above address. In addition, we have quoted the sections of the Pollution Control Board Procedural Rules that apply to variances. If, after reading the information supplied herein, you still have questions regarding any aspect of a petition for variance, you may contact the Variance Section of the Agency's Division of Air Pollution Control. The quality of your presentation before the Board should be a prime consideration in considering a petition for variance.

Excerpts from the
ILLINOIS POLLUTION CONTROL BOARD
RULES AND REGULATIONS
CHAPTER I: PROCEDURAL RULES
PART IV: VARIANCES

Rule 401. Petition. (a) A variance proceeding shall be commenced by filing a petition for variance with the Agency and by filing ten copies of the petition with the Clerk of the Board. The petition shall contain the following:

(1) a concise statement of the facts upon which the variance is requested, including a description of the business or activity in question; the quantity and type of raw materials processed; an estimate of the quantity and type of contaminants discharged; a description of existing and proposed equipment for the control of discharges; and a time schedule for bringing the activity into compliance;

(2) a concise statement of why the petitioner believes that compliance with the provision from which variance is sought would impose an arbitrary or unreasonable hardship, including a description of the costs that compliance would impose on the petitioner and others and of the injury that the grant of the variance would impose on the public; and

(3) a clear statement of the precise extent of the relief sought.

(b) The complaint may be accompanied by such affidavits or other proof as the petitioner may submit in order to make it possible for the Board, if it so decides, to dispose of the matter without a hearing.

Rule 402. Notice. (a) The Board shall give notice of all variance petitions filed to all persons on its mailing list, in the Board's newsletter or by special mailing, within ten days after the petition is filed.

(b) The Agency shall give written notice of all such petitions to any persons in the county in which the installation or property for which variance is sought is located who has in writing requested notice of variance petitions, and shall publish notice of such petitions in a newspaper of general circulation in such county, within ten days after the petition is filed.

Rule 403. Investigation and Recommendation. (a) After investigating the variance petition and considering the views of persons who might be adversely affected by the grant of the variance, the Agency shall within 21 days after the filing of the petition make a recommendation to the Board as to the disposition of the petition. The recommendation shall include:

(1) a description of the efforts made by the Agency to investigate the facts as alleged and to ascertain the views of persons who might be affected, and a summary of the views so ascertained;

(2) a statement of the degree to which, if at all, the Agency disagrees with the facts as alleged in the petition;

(3) allegations of any other facts the Agency believes relevant to the disposition of the petition;

(4) the Agency's assessment of the costs that compliance would impose on the petitioner and on others and of the injury that the grant of the variance would impose on the public; and

(5) the Agency's conclusion as to what disposition should be made of the petition.

(b) The Agency shall serve a copy of its recommendation on the petitioner in accordance with Rule 305(b).

Rule 404. Objections to Petition. Any person may file with the Clerk, within 21 days after the filing of the petition, a written objection to the grant of the variance. Such objection may or may not be accompanied by a petition to intervene under Rule 310. A copy of such objection shall be mailed by the Clerk to the petitioner and to the Agency.

Rule 405. Authorization of Hearing. (a) The Clerk shall assign a docket number to each petition filed, deposit the petition in the Board's files and distribute copies to each Board member. Copies of objections to the petition and of Agency recommendations shall be filed and distributed as received.

(b) If no objection is made by the Agency or by any other person to the grant of the variance within 21 days after the filing of the petition, the Chairman shall place the matter on the agenda for the Board determination whether or not to hold a hearing.

The Board shall authorize a hearing unless it determines either:

(1) that even if all the facts alleged in the petition are true, the petitioner is not entitled to a variance; or

(2) that the petitioner has shown from affidavits or other proof that compliance with the provision from which variance is sought would impose an arbitrary or unreasonable hardship.

No variance shall be granted, with or without hearing, without adequate proof by the petitioner that compliance would impose an arbitrary or unreasonable hardship.

If the Board decides not to hold a hearing, it shall pass upon the petition and shall prepare an opinion stating its reasons both for the grant or denial of the petition and for its decision.

(c) The Board may vote to authorize a hearing without waiting for the expiration of the 21 days during which objections may be filed, but shall not rule upon the petition without hearing until the 21 days have elapsed.

(d) If an objection is made to the grant of the variance within 21 days after the filing of the petition, or if the Board authorizes a hearing, the Chairman shall designate a Hearing Officer in accordance with Rule 306.

(e) When the Agency has recommended that the variance be granted, the Board may appoint counsel to present a case against the petitioner.

Rule 406. Notice of Hearing. The Hearing Officer, after appropriate consultation with the parties, shall set a time and place for hearing and shall give notice as follows, at least 21 days prior to the date of the hearing:

(a) to the petitioner, the Agency and anyone who has filed an objection to the petition, in accordance with Rule 305(b);

(b) to all persons on the Board's mailing list, in the Board's newsletter or by special mailing.

The hearing shall be set for a date no later than 60 days after the filing of the petition. Any request by the petitioner for a continuance shall constitute a waiver of the right to a decision within 90 days under Section 38 of the Act, for the period of the continuance.

Rule 407. Proceedings. Proceedings upon a petition for variance shall be in accordance with Part III of these Rules, except as provided in this Part.

Rule 408. Decision. The Board shall render a final decision upon the petition within 90 days after the filing of the petition, except that time included in a continuance granted at the request of the petitioner shall not be counted. When exigencies of time require, the Board may delay the filing of an opinion until not more than 30 days after the filing of its final order under this section.

Rule 409. Variance from New Regulations. If any person files a petition for variance from a regulation within 21 days after the effective date of such regulation, the operation of such rule or regulation shall be stayed as to such person pending the disposition of the petition. The Board may hold a hearing upon said petition five days from the notice of such hearing, and in all other respects the Rules in this Part shall apply to the extent they are consistent with the hearing date set by the Board.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

APPLICATION FOR RENEWAL OF AN OPERATING PERMIT

OPERATION OF: Boiler #P-1-1 (A)
(SAME AS 9c ON PAGE 2)

FOR AGENCY USE ONLY

I. D. NO. _____

PERMIT NO. _____

DATE _____

1a. NAME OF OWNER: Olin Corporation		2a. NAME OF OPERATOR: Same	
1b. STREET ADDRESS OF OWNER: P.O. Drawer G		2b. STREET ADDRESS OF OPERATOR:	
1c. CITY OF OWNER: Marion		2c. CITY OF OPERATOR:	
1d. STATE OF OWNER: Illinois	1e. ZIP CODE: 62959	2d. STATE OF OPERATOR:	2e. ZIP CODE:

3a. NAME OF CORPORATE DIVISION OR PLANT:		3b. STREET ADDRESS OF EMISSION SOURCE: Crab Orchard Refuge		
3c. CITY OF EMISSION SOURCE: Marion	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	3e. TOWNSHIP:	3f. COUNTY: Williamson	3g. ZIP CODE:

4. ALL CORRESPONDENCE TO: (NAME OF INDIVIDUAL) R. D. Altekruse	5. TELEPHONE NUMBER FOR AGENCY TO CALL: (618)985-3721
6. ADDRESS FOR CORRESPONDENCE: ☒ OWNER ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR ID NUMBER FOR THIS APPLICATION: (B) Boil P-1-1

8. THE UNDERSIGNED HEREBY MAKES APPLICATION FOR A PERMIT AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. BY AFFIXING HIS SIGNATURE HERETO HE FURTHER CERTIFIES THAT HE IS AUTHORIZED TO EXECUTE THIS APPLICATION.

AUTHORIZED SIGNATURE(S) (C)

BY _____ SIGNATURE _____ DATE	BY _____ SIGNATURE _____ DATE
TYPED OR PRINTED NAME OF SIGNER	TYPED OR PRINTED NAME OF SIGNER
TITLE OF SIGNER	TITLE OF SIGNER

(A) THIS FORM IS TO PROVIDE THE AGENCY WITH GENERAL INFORMATION ABOUT THE EQUIPMENT TO BE OPERATED.

(B) PROVIDE A NUMBER IN ITEM SEVEN (7) ABOVE WHICH YOU WOULD LIKE THE AGENCY TO USE FOR IDENTIFICATION OF THIS OPERATION. YOUR IDENTIFICATION NUMBER WILL BE REFERENCED IN ALL CORRESPONDENCE, RELATIVE TO THIS APPLICATION, FROM THIS AGENCY. YOUR IDENTIFICATION NUMBER MUST NOT EXCEED TEN (10) CHARACTERS.

(C) THIS APPLICATION MUST BE SIGNED IN ACCORDANCE WITH PCB REGS., CHAPTER 2, PART 1, RULE 103(a)(4) OR 103(b)(5) WHICH STATES: "ALL APPLICATIONS AND SUPPLEMENTS THERETO SHALL BE SIGNED BY THE OWNER AND OPERATOR OF THE EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT, OR THEIR AUTHORIZED AGENT, AND SHALL BE ACCOMPANIED BY EVIDENCE OF AUTHORITY TO SIGN THE APPLICATION."

IF THE OWNER OR OPERATOR IS A CORPORATION, SUCH CORPORATION MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF THE CORPORATION'S BOARD OF DIRECTORS AUTHORIZING THE PERSONS SIGNING THIS APPLICATION TO CAUSE OR ALLOW THE CONSTRUCTION OR OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

001482 001481

FOR AGENCY USE ONLY

DATA AND INFORMATION INCORPORATED BY REFERENCE FROM CURRENT OPERATING PERMIT

9a APPLICATION NO.: 0 3 0 0 3 0 7 2 0

9b. I. D. NO.: 1 9 9 0 5 5 A A R

9c. OPERATION OF: Boiler #P-1-1

9d LOCATION: Crab Orchard Refuge

9e. PERMIT EXPIRATION DATE: 0 5 3 0 7 5

9f. HAS THE OPERATION AS DESCRIBED IN THE REFERENCED OPERATING PERMIT BEEN MODIFIED* AS DEFINED IN RULE 101 OF THE PCB REGS., CHAPTER 2, PART 1? ☐ YES ☒ NO

9g IF "YES" SUBMIT THE APPLICABLE FORMS OR DESCRIBE IN DETAIL THE MODIFICATION OF THE OPERATION.

9h. DATE THE OPERATION WAS MODIFIED: — — — — — —

10a. IF THE OPERATION IS SUBJECT TO A RULE WHOSE EFFECTIVE DATE IS ON OR BEFORE THE DATE OF THIS APPLICATION, IS SUCH OPERATION IN FULL COMPLIANCE WITH ALL SUCH RULES? ☒ YES ☐ NO

10b. IF "NO", EXPLAIN:

11 IF YOUR OPERATING PERMIT APPLICATION CONTAINS COMPLIANCE PROGRAM(S), HAS THIS COMPLIANCE PROGRAM BEEN COMPLETED AND HAVE ALL THE PROJECT COMPLETION REPORTS (APC-271) BEEN SUBMITTED? ☒ YES ☐ NO See Below

12a ARE YOU IN COMPLIANCE WITH ALL CONDITIONS OF ALL REFERENCED PERMITS? ☒ YES ☐ NO

12b. IF "NO", EXPLAIN:

*MODIFICATION: ANY PHYSICAL CHANGE IN, OR CHANGE IN THE METHOD OF OPERATION, OF AN EMISSION SOURCE OR OF AIR POLLUTION CONTROL EQUIPMENT WHICH INCREASES THE AMOUNT OF ANY SPECIFIED AIR CONTAMINANT EMITTED BY SUCH SOURCE OR EQUIPMENT OR WHICH RESULTS IN THE EMISSION OF ANY SPECIFIED AIR CONTAMINANT NOT PREVIOUSLY EMITTED. IT SHALL BE PRESUMED THAT AN INCREASE IN THE USE OF RAW MATERIALS, THE TIME OF OPERATION, OR THE RATE OF PRODUCTION WILL CHANGE THE AMOUNT OF ANY SPECIFIED AIR CONTAMINANT EMITTED. NOTWITHSTANDING ANY OTHER PROVISIONS OF THIS DEFINITION, FOR PURPOSES OF PERMITS ISSUED PURSUANT TO RULE 103, THE AGENCY MAY SPECIFY CONDITIONS UNDER WHICH AN EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT MAY BE OPERATED WITHOUT CAUSING A MODIFICATION AS HEREIN DEFINED, AND NORMAL CYCLICAL VARIATIONS, BEFORE THE DATE OPERATING PERMITS ARE REQUIRED, SHALL NOT BE CONSIDERED MODIFICATIONS. PCB REGS., CHAPTER 2, PART 1, RULE 101.

NOTE TO INCORPORATE OTHER CONSTRUCTION PERMITS BY REFERENCE, ATTACH A LISTING OF SUCH PERMITS USING THE FORMAT SET FORTH IN ITEM 9 OR APC-210, "DATA AND INFORMATION -- INCORPORATION BY REFERENCE."

Fuel oil with 0.29% sulfur content was put into use 4/15/75 thus completing the Compliance Program.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

2200 Churchill Road Springfield, Illinois 62706

Dr. Richard H. Briceland, Director

JANUARY 21, 197[illegible]

CLIN CORPORATION
PO DRAWER G
MARION, IL.
62959

ATTENTION - R C MENKEN

REFERENCE
APPLICATION NO. - 03030720
ID NUMBER - 199055AAR BOIL P-1-1
RECEIVED - 04-18-73
OPERATION OF - BOILER P-1-1
LOCATION - CRAB ORCHARD REFUGE
MARION
WILLIAMSON

GENTLEMEN:

THIS LETTER IS TO ADVISE YOU THAT THE ABOVE-REFERENCED PERMIT APPLICATION IS DUE TO EXPIRE ON 05-30-75. SINCE THE PCB REGS., CHAPTER 2, PART 1, RULE 103(B)(6) REQUIRE THAT AN APPLICATION FOR A PERMIT RENEWAL BE SUBMITTED TO THE AGENCY AT LEAST 90 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT, THE AGENCY SUGGESTS THAT YOU REAPPLY ON OR BEFORE 03-01-75.

ENCLOSED WITH THIS LETTER IS A REAPPLICATION FORM WHICH MAY BE USED IF THE OPERATION AS DESCRIBED IN THE ABOVE REFERENCED PERMIT APPLICATION REMAINS TRUE, CORRECT, CURRENT AND COMPLETE. IF THE OPERATION AS DESCRIBED IN THE ABOVE-REFERENCED PERMIT APPLICATION HAS BEEN MODIFIED AS DEFINED IN PCB REGS., CHAPTER 2, PART 1, RULE 101, YOU SHOULD COMPLETE THE APPROPRIATE PERMIT APPLICATION FORMS.

UPON RECEIPT OF THIS NOTICE YOU SHOULD FURTHER APPRISE YOURSELF OF THE EXPIRATION DATES OF ALL OTHER PERMITS WHICH REQUIRE RENEWAL. SHOULD YOU HAVE ANY QUESTIONS CONCERNING THIS MATTER, PLEASE CONTACT YOUR DIVISION OF AIR POLLUTION CONTROL REGIONAL OFFICE OR THIS OFFICE. YOUR REGIONAL OFFICE IS IDENTIFIED ON THE MAP PRINTED ON THE REVERSE SIDE OF THE 'STANDARD CONDITIONS FOR OPERATING PERMITS' INCLUDED WITH YOUR CURRENT PERMIT.

IF YOU HAVE ALREADY REAPPLIED OR IF THIS NOTICE IS INAPPLICABLE, PLEASE DISREGARD IT.

VERY TRULY YOURS,

001484

KEITH J. CONKLIN, P.E.
MANAGER, PERMIT SECTION
DIVISION OF AIR POLLUTION CONTROL

July 17, 1974

Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

Attention: Division of Air Pollution Control

Re: Annual Emission and
Malfunction Report

Gentlemen:

Enclosed herewith for filing are the annual reports under permits numbered:

03030349
03032587
03030720
03030719
03030718
03030354
03030353
03030352
03030350.

Yours truly,

Original Signed By
P. O. BOYLE

Patrick O. Boyle

POB/ar
Enclosures (9)

cc: R. D. Altekruse - Olin
Mgr. Process Engineering

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

001485

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

ANNUAL EMISSION AND MALFUNCTION REPORT

FOR OFFICIAL USE ONLY
I. D. NO.
OPERATING PERMIT NO.
DATE

1. NAME OF OWNER: Olin Corporation		2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER):	
3. TELEPHONE NUMBER: (618)985-3721		4. STREET ADDRESS OF EMISSION SOURCE: Crab Orchard Refuge	
5. STREET ADDRESS OF OWNER: P.O. Drawer G		6. CITY:	7. TELEPHONE NUMBER:
8. CITY: Marion		9. COUNTY: Williamson	10. LOCATED WITHIN CITY LIMITS: YES ____ NO X
11. STATE: Ill.	12. ZIP CODE: 62959	13. TOWNSHIP:	14. ZIP CODE:

15. ANNUAL EMISSION REPORT: I hereby swear and affirm that the data and information incorporated in the operating permit application referenced below, remain true, correct and current.

0 3 0 3 0 7 2 0 OPERATING PERMIT NO.

Authorized Signature

16. NAME AND NUMBER OF CONTROL EQUIPMENT AS NOTED ON OPERATING PERMIT FLOW DIAGRAM	17. NUMBER OF MALFUNCTIONS DURING PERIOD OF THIS REPORT	18. TOTAL DURATION OF MALFUNCTIONS (HRS) DURING PERIOD OF THIS REPORT	19. TOTAL HOURS OF NORMAL OPERATION DURING PERIOD OF THIS REPORT
Boiler #P-1-1	6	40	2200
20. SYSTEM TOTAL	21.	22.	23.

24. PERIOD COVERED BY THIS REPORT: FROM June 24, 1973 TO June 24, 1974

25. The above information is submitted in accordance with the PCB regulations, Chapter 2, Rule 107(b) as adopted April 14, 1972 and to the best of my knowledge, information, and belief is true, correct and complete.

Authorized Signature

NOTE: The signature must be that of the person authorized to execute the operating permit application. If the information exhibited on the referenced operating permit application is no longer correct, direct updating information to:

Environmental Protection Agency
Division of Air Pollution Control
Permit Section
2200 Churchill Road
Springfield, Illinois 62706
Attn: Mr. Keith Conklin

001486

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

2200 Churchill Road
62706

Springfield, Illinois
Phone: 217/525-5811

June 27, 1973

Mr. R. D. Altekruse
Olin Corporation
P.O. Drawer G
Marion, Illinois 62959

Re: Compliance Plan Hearing for Olin Corporation (Permits Ø3 030 717, Ø3 030 719, Ø3 030 720, Ø3 030 353, Ø3 030 349)

Dear Mr. Altekruse:

Title 40, Part 51 of The Code of Federal Regulations require that all applicable compliance programs for future Illinois Pollution Control Board Air Regulations be subjected to a public hearing to determine if any person wishes to make comments concerning your compliance plan.

Your compliance plan will be made available for public inspection at Mt. Vernon Public Library; Broadway, Seventh and Main; Mt. Vernon, Illinois.

A public hearing will be held at 10:00 AM, July 26, Illinois Education Association, Second and Edwards, Springfield, Illinois.

Any person who wishes to present either oral or written testimony has been requested to contact the Environmental Protection Agency, Division of Air Pollution Control, Variance Section, 2200 Churchill Road, Springfield, Illinois 62706 (217)525-5811 at least five (5) days prior to the hearing date.

If you plan to attend this compliance plan hearing, please contact the above-mentioned Section of the Environmental Protection Agency at least five (f) days before the hearing date. If you have any questions, please feel free to call.

Sincerely,

Robert Goldberg, P.E.
Manager, Variance Section
Division of Air Pollution Control

RG:jf

001487

April 16, 1973

Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Attention: Mr. Keith Conklin,
Manager Permit Section

Re: Operating Permits
Boilers in Williamson County

Gentlemen:

Olin's prior applications for these permits were returned for further information. We trust that these corrected applications are adequate for filing.

Yours truly,

Original Signed By
P. O. BOYLE

Patrick O. Boyle

POB/ar
Enclosures

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

BCC: R. D. Altekruse
J. E. Redden

001488

STATE OF ILLINOIS
E[illegible]RONMENTAL PROTECTION AGENC
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706
TELEPHONE (217) 525 5811

AIR POLLUTION EPISODE ACTION PLAN

OF INSTALLATION		DATE.
n Corporation, Marion, Illinois Plant		4/13/73
ON OF INSTALLATION – STREET	CITY OR TOWNSHIP	COUNTY
b Orchard Wild Life Refuge,		Williamson County
G ADDRESS – STREET OR BOX NO.:	CITY	STATE AND ZIP:
). Drawer G,	Marion,	Illinois 62959

PERSON TO BE NOTIFIED	TITLE	OFFICE PHONE	HOME PHONE:
	Shift Foreman	618/985-3721	
A. Heinz	Plant Manager	618/985-3721	618/993-5504
J. E. Redden	Vice President	618/985-3721	618/993-4009

CTURING PROCESSES: Describe operations or products manufactured

Production of Ordnance Products

MBUSTION EMISSION SOURCES: Describe combustion equipment, purpose, type of fuel used and rated heat capacity. If capacity over 10 million al, specify means whereby four-day supply of low ash, low sulfur fuel is assured unless an emission reduction equivalent to the use of such fuel is planned rts

Nine separate boilers for space heat. Total capacity 50,000,000 BTU/hr. All use low sulfur #2 fuel oil (less than 0.5% S) or natural gas with #2 fuel oil stand by. A four day supply of low sulfur fuel oil is maintained.

BURNING OR INCINERATION DEVICES. Indicate amount of refuse burned, type of control device if installed, specify what preparations have e to store or handle a four-day accumulation of refuse.

Explosive refuse burned off-site. A four day accumulation may be stored. Balance of refuse removed by scavenger service. No refuse generated during emergency.

S EMISSION SOURCES: List all sources of air contaminants not described above:

None

S:

TO BE CONTACTED FOR FURTHER INFORMATION: R. D. Altekruse (Name) 618/985-3721 (Phone)

RE The undersigned hereby submits its episode action plan in accordance with Rule 410, Chapter 2, Part IV: Illinois Pollution Control Regulations ugust 15, 1972 and certifies that the statements contained herein are true and correct. This plan indicates emission reduction actions which will be taken t of an air pollution episode.

F FACILITY	OPERATOR OF FACILITY (If other than owner)
ted) _____	Name (printed) _____
_____	Signature _____
_____	Title _____

001489

YELLOW ALERT REQUIREMEN

pen burning prohibited boiler lancing soot blowing, and certain incineration authorized only between 12 00 noon and 4 00 p m Fuel combustion emission inces rated in excess of 10 million btu/hr shall use fuel with a sulfur content of less than 1 0% (1 5% for fuel oil) or attain an equivalent emissions reduction ariances and programs of delayed compliance for process emission sources suspended No actions required of process emission sources meeting Illinois emission andards

dicate actions your facility will take to meet requirements

Notify shift leaders to commence yellow alert actions. Stop off-site refuse burning. Reduce boiler needs to mimimum. Boilers will continue to burn low sulfur fuel oil (less than 0.5%).

timated Operations Reduction: 25 %	Estimated Emissions Reduction: 25 %

RED ALERT REQUIREMENTS

ontinue all Yellow Alert actions Operation of manufacturing emission sources, including process steam generators shall be curtailed to the greatest extent possible ithout causing injury to persons or severe damage to equipment All incineration is now prohibited.

dicate actions your facility will take to meet requirements:

Continue yellow alert actions. Do not burn refuse off-site. Reduce temperatures in all heated areas. Maintain temperature in nitroglycerine storage above 55°F. Take necessary precautions to prevent pipe freezing.

stimated Total Operations Reduction 50 %	Estimated Total Emissions Reduction: 50 %

EMERGENCY REQUIREMENTS

ontinue Yellow and Red Alert actions Non-essential use of electricity and motor vehicles prohibited. Buildings heated to 65°F or less. All manufacturing and ost industrial, commercial, governmental, educational, and recreational facilities now curtail or cease operation.

dicate actions your facility will take to meet requirements:

Continue Red Alert actions. Stop all production. Assure temperature above 55°F in nitroglycerine storage. Turn off all space heaters where possible and reduce space heating thermostats to 65°F. Turn off all lights and air conditioners except those in emergency offices. Notify all production personnel and office workers to stay home.

001490

imated Total Operations Reduction 100 %	Estimated Total Emissions Reduction 98 %

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

COMPLIANCE PLAN

I.D. NO.

PERMIT NO. 0

DATE

4. NAME OF OWNER: Olin Corporation	7. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Same
5. TELEPHONE NUMBER: 618/985-3721	8. TELEPHONE NUMBER:
6. STREET ADDRESS OF OWNER: P.O. Drawer G	9. STREET ADDRESS OF EMISSION SOURCE: Crab Orchard Wild Life Refuge
7. CITY: Marion	10. CITY: Marion / 11. LOCATED WITHIN CITY LIMITS ☐YES ☒NO
8. STATE: Illinois / 6. ZIP CODE: 62959	12. COUNTY: Williamson / 13. ZIP CODE: 62959

THE UNDERSIGNED HEREBY FILES THIS COMPLIANCE PLAN RELATING TO THE EQUIPMENT DESCRIBED HEREIN AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. THE UNDERSIGNED APPROVES EACH AND EVERY PROVISION OF THE PROGRAM DESCRIBED IN THIS COMPLIANCE PLAN AND RELATED PROJECT COMPLETION SCHEDULES.

OWNER (IF INDIVIDUAL)

SIGNATURE DATE

B O T T P - 1 - 1

YOUR IDENTIFICATION NUMBER (OPTIONAL)

OWNER (IF CORPORATION OR PARTNERSHIP)

EXACT CORPORATE OR PARTNERSHIP NAME DATE

SIGNATURE OF OFFICER TITLE OF OFFICER

A CORPORATE OWNER MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF ITS BOARD OF DIRECTORS AUTHORIZING THE OFFICER SIGNING THE APPLICATION TO EXECUTE THIS COMPLIANCE PLAN, AND TO CAUSE OR ALLOW THE CONSTRUCTION, MODIFICATION AND OPERATION OF THE EQUIPMENT TO BE COVERED THEREUNDER.

THIS PERMIT APPLICATION CONSISTS OF APPLICATION FORMS AND OTHER EXHIBITS LISTED BY TITLE AND NUMBER OF PAGES BELOW.

Form APC-95, 2 pages

Form APC-98, 1 page

001491

14. The applicant shall submit a process flow diagram depicting all emission sources and all air pollution control equipment covered by this Compliance Plan and related Operating Permit application. The diagram shall include labels for each source and equipment, and shall set forth maximum flow rates for (1) all process equipment, (2) all air pollution control equipment, (3) all emission sources and (4) all stacks and vents.

(If this information has been previously submitted with the Operating Permit application, the applicant need not resubmit the diagram but may reference appropriate drawing number(s)).

Number of sheets: N/A Drawing Number(s): N/A

15. The applicant shall submit a detailed description of the equipment he proposes to install to comply with the Environmental Protection Act and applicable substantive Regulations. This description shall include information as to the technical reasonableness of the proposed air pollution control equipment or control techniques, and engineering reports or studies sufficient to prove that the installation of this equipment will result in the operation being in compliance with the Act and applicable substantive Regulations. This equipment shall be accurately and clearly labeled on the process flow diagram. Detailed information for each item of equipment shall be submitted in one of the following three ways:

(a) If the applicant has entered into a binding agreement or contractural obligation to purchase specific items of equipment, he shall complete applicable Construction Permit application forms, and shall note on page one (1) of such forms "This equipment is purchased, but not installed, as part of our Compliance Plan for the operation, and is indicated on drawing (complete as necessary) as item (complete as necessary)." The applicant shall submit a list of those forms so marked and attach to this Plan as Exhibit N.

Total number of pages in Exhibit N: _____

(b) If the applicant has selected but not entered into a binding agreement or contracturual obligation to purchase specific items of equipment, he shall complete applicable Construction Permit application forms and shall note on page (1) of such forms "This equipment is to be purchased and installed as part of our Compliance Plan for this operation and is indicated on drawing (complete as necessary) as item (complete as necessary)." The applicant shall submit a list of those forms so marked and attach to this Plan as Exhibit P.

Total number of pages in Exhibit P: _____

(c) If the applicant has selected the type of air pollution control equipment or control techniques but has not selected specific items of equipment, he shall (A) submit performance specificationswhich detail the performance of the equipment to be procured; (B) provide a test plan which will detail how the equipment, purchased pursuant to a given specification, will be tested to prove that the equipment meets the applicable performance specifications; and (C) attach this information to this Plan as Exhibit Q.

Total number of pages in Exhibit Q: See below

16. The applicant shall submit a Project Completion Schedule (Form APC-98) for each item of air pollution control equipment or control technique. The final compliance date of such Project Completion Schedule shall be no later than the applicable date described in Chapter 2: Air Pollution.

Total number of Forms APC-98 submitted with this application: 1

Exhibit Q - Olin will convert to use of a distillate fuel oil of less than 0.3% sulfur content. Based on calculations outlined in Federal EPA Method AP-42, use of such fuel oil will guarantee compliance with emission requirements.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

PROJECT COMPLETION SCHEDULE

FOR OFFICIAL USE ONLY
I.D. NO.
PERMIT NO. 0
DATE

NAME OF OWNER: Olin Corporation	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Same
STREET ADDRESS OF EMISSION SOURCE: P.O. Drawer G	4. CITY: Marion
NAME OF AUTHORIZED PERSON PREPARING THIS FORM: R. D. Altekruse	6. SIGNATURE: R. D. Altekruse
YOUR IDENTIFICATION NUMBER: (OPTIONAL) BOTTL P-1-1	8. DATE THIS FORM 98 PREPARED: 4/13/75
OPERATING PERMIT NUMBER: (IF AVAILABLE)	10. CONSTRUCTION PERMIT NUMBER: (IF AVAILABLE)

THIS FORM MUST BE COMPLETED FOR EACH ITEM OF EQUIPMENT TO BE CONSTRUCTED OR MODIFIED IN ACCORDANCE WITH A COMPLIANCE PLAN.

DESCRIBE THE ITEM OF EQUIPMENT TO BE CONSTRUCTED OR MODIFIED:

Our Purchasing Department is searching for a source of distillate fuel oil of less than 0.3% sulfur content and will have such fuel available by April 1, 1975. Based on calculations outlined in Federal EPA Method AP-42, such a fuel will guarantee compliance with emission requirements.

IDENTIFY THE LABEL OF THIS ITEM OF EQUIPMENT AS GIVEN ON THE APPROPRIATE PROCESS FLOW DIAGRAM: #2 Fuel Oil

STATE THE PURCHASE PRICE OF THIS EQUIPMENT: ☐ ESTIMATED ☐ ACTUAL $ N/A	14. STATE THE TOTAL COST (EQUIPMENT PLUS INSTALLATION): ☐ ESTIMATED ☐ ACTUAL $ N/A

COMPLETE ALL OF THE FOLLOWING INFORMATION IN COLUMNS A AND B. COMPLETE COLUMN C AS APPLICABLE.

	A. EXPECTED DATE ACTIVITY WILL BE COMPLETED	B. LATEST DATE ACTIVITY WILL BE COMPLETED	C. ACTUAL DATE ACTIVITY WAS COMPLETED
a. STATE DATE THE APPLICANT WILL ENTER INTO A BINDING AGREEMENT TO PURCHASE OR MODIFY THIS ITEM OF EQUIPMENT.	3/1/75	4/1/75	
b. STATE DATE THE APPLICANT WILL APPLY FOR A CONSTRUCTION PERMIT FOR THIS ITEM OF EQUIPMENT OR MODIFICATION OF EQUIPMENT.			
c. STATE DATE THIS ITEM OF EQUIPMENT WILL BE DELIVERED (IF PRESENT EQUIPMENT IS TO BE MODIFIED, STATE WHEN SUCH MODIFICATION SHALL BEGIN) TO THE APPLICANT'S FACILITY.			
d. STATE DATE CONSTRUCTION OR MODIFICATION OF EQUIPMENT WILL BE COMPLETED.			
e. STATE DATE APPLICANT WILL TEST EQUIPMENT TO DEMONSTRATE COMPLIANCE WITH THE ENVIRONMENTAL PROTECTION ACT AND SUBSTANTIVE REGULATIONS PROMULGATED THEREUNDER.			
f. STATE DATE EQUIPMENT WILL BE FULLY OPERATIONAL.	4/30/75	5/30/75	

E: THE TIME ELAPSED BETWEEN TWO CONSECUTIVE EVENTS LISTED IN ITEM 15 ABOVE SHALL NOT EXCEED 6 MONTHS. IN CASE CONSECUTIVE DATES EXCEED 6 MONTHS YOU MUST INTRODUCE AN INTERIM EVENT OR EVENTS SO THE TIME INTERVAL BETWEEN ANY TWO CONSECUTIVE EVENTS IS 6 MONTHS OR LESS.

001493

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

2200 Churchill Road Springfield, Illinois 62706

Mary Lee Leahy, Director

March 30, 1973

CERTIFIED MAIL

Re: Application #0 3 03 0717
0 3 03 0718
0 3 03 0719
0 3 03 0720

OLIN CORPORATION
Post Office Drawer "G"
Marion, Illinois 62959

I. D. #199 055 AAR
Received: March 2, 1973
Location: Crab Orchard Refuge
Marion, Illinois
County: Williamson

Attention: Mr. R. C. Menken
Vice President

Gentlemen:

The Agency hereby informs you that the above-referenced operating permit applications do not provide all the informational requirements as set forth in the Illinois Pollution Control Board Rules and Regulations, Chapter 2, Part 1, Rule 103. Therefore, pursuant to Rule 103(b)(4) the above subject operating permit applications are NOT deemed as having been filed.

Although the applicable regulations instruct the Agency to consider applications such as yours as not having been filed because they lack information; the Agency is desirous of assisting you in preparing and filing appropriate and acceptable permit applications.

The Agency is returning the originals of your permit applications. The Agency will retain the duplicate copies.

Your new applications may be prepared in one of the two following methods:

1. Submission of completely new original and duplicate applications.

2. Resubmission of the applications herein being returned after they have been properly amended so as to include the pertinent information necessary before their acceptability.

The Agency is hopeful that the second method listed above (i.e. Re-submission of original applications) will prove to be a time saving device for your benefit. However, when re-submitting your applications, please include the above-referenced Application Numbers and I. D. Numbers.

Printed on 100% reclaimed paper

If you elect to re-submit the original applications after adding the information which was originally missing; it will not be necessary for you to submit duplicate copies of the information the Agency already has in the duplicate application now retained in our files. However, you are required to submit original and duplicate copies of the NEW information contained in your applications upon their resubmission.

Your permit applications contained the following informational deficiencies which must be remedied before the Agency will consider reapplication. The correction of these deficiencies will assist the Agency in evaluating your processes, and enable the Agency to determine whether enough specific data has been submitted for acceptability of your permit applications. Once your applications have been accepted, the Agency will proceed to a determination of whether or not operating permits will be issued.

The Agency has no record of a certified copy of a resolution of the Board of Directors, or of a certified copy of the applicable portions of the corporate by-laws, authorizing the signer of the applications to sign on behalf of the corporation.

The applications do not contain a Compliance Plan and Project Completion Schedule, or proof that such a plan is not needed for the following emission sources:

Boilers

Very truly yours,

Keith J. Conklin, P.E.
Manager, Permit Section
Division of Air Pollution Control

GKM:pg

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

P1-1

RICHARD B. OGILVIE, GOVERNOR

WILLIAM L. BLASER, DIRECTOR

OPERATING PERMIT APPLICATION

I.D. NO. ☐☐☐☐☐☐☐☐☐

PERMIT NO. 0 ☐☐☐☐☐☐☐

DATE _____

1. NAME OF OWNER: Olin Corporation	1b. NAME OF OPERATOR: Same
TELEPHONE NUMBER OF OWNER: (618) 985-3721	2b. TELEPHONE NUMBER OF OPERATOR:
3. STREET ADDRESS OF OWNER: P.O. Drawer G	3b. STREET ADDRESS OF OPERATOR:
4. CITY OF OWNER: Marion,	4b. CITY OF OPERATOR:
STATE OF OWNER: Illinois / 6a. ZIP CODE: 62959	5b. STATE OF OPERATOR: / 6b. ZIP CODE:
NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER):	
TELEPHONE NO. OF DIV. OR PLANT: / 9. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	10. STREET ADDRESS OF EMISSION SOURCE: Crab Orchard Refuge
CITY: / 11a. TOWNSHIP:	12. COUNTY: Williamson / 13. ZIP CODE:

UNDERSIGNED HEREBY MAKES APPLICATION FOR A PERMIT TO OPERATE THE EQUIPMENT DESCRIBED HEREIN AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND RENT.

OWNER (IF INDIVIDUAL)

SIGNATURE _____ DATE _____

☐☐☐☐☐☐☐☐☐
YOUR IDENTIFICATION NUMBER (OPTIONAL)

OWNER (IF CORPORATION OR PARTNERSHIP)

EXACT CORPORATE OR PARTNERSHIP NAME _____ DATE _____

BY _____
SIGNATURE _____ TITLE _____

OPERATOR MUST SIGN IF DIFFERENT FROM OWNER

OPERATOR (IF INDIVIDUAL)

SIGNATURE _____ DATE _____

OPERATOR (IF CORPORATION OR PARTNERSHIP)

EXACT CORPORATE OR PARTNERSHIP NAME _____ DATE _____

BY _____
SIGNATURE _____ TITLE _____

N OWNER OR OPERATOR IS A CORPORATION, IT MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF ITS BOARD OF DIRECTORS ORIZING THE INDIVIDUALS SIGNING THE APPLICATION TO EXECUTE THIS OPERATING PERMIT APPLICATION AND TO CAUSE OR ALLOW THE CONSTRUCTION, FICATION AND OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

PERMIT APPLICATION CONSISTS OF APPLICATION FORMS AND OTHER EXHIBITS LISTED BY TITLE AND NUMBER OF PAGES BELOW.

Form APC-60, 3 pages
Map APC-60-9 1 page
Form APC-86, 3 pages

001496

60

GENERAL INFORMATION

14. The applicant shall submit a plot plan and map showing distances to the nearest boundary of the property on which the operation is located and distances to the nearest residences, lodgings, nursing homes, hospitals, schools and commercial and manufacturing establishments, and attach this plot plan and map to this application.

15. The applicant shall submit a process flow diagram depicting all emission sources and all air pollution control equipment covered by this Operating Permit application. The diagram shall include labels for each source and equipment, and shall set forth maximum flow rates for (1) all processing equipment, (2) all air pollution control equipment, (3) all emission sources and (4) all stacks and vents.

Number of sheets: N/A Drawing number(s): _____

16. If the applicant is incorporating by reference previously granted Installation or Construction Permits, he shall complete Form APC-93, entitled "Previously Granted Installation or Construction Permits Incorporated by Reference."

Total number of Forms APC-93 included with this application: 0

17. For each existing emission source (other than fuel combustion sources or incinerators) not covered by a previously granted Installation or Construction Permit, the applicant shall complete Form APC-64, entitled "Data and Information for an Existing Emission Source."

Total number of Forms APC-64 included with this application: 0

18. For each existing fuel combustion source not covered by a previously granted Installation or Construction Permit, the applicant shall complete Form APC-86, entitled "Data and Information for Existing Combustion Equipment and Indirect Heating."

Total number of Forms APC-86 included with this application: 1

19. For each existing incinerator not covered by a previously granted Installation or Construction Permit, the applicant shall complete Form APC-92, entitled "Data and Information for Existing Incinerators."

Total number of Forms APC-92 included with this application: 0

20. For each existing item of air pollution control equipment not covered by a previously granted Installation or Construction Permit, the applicant shall complete Form APC-62, entitled "Data and Information for Existing Air Pollution Control Equipment" (for Electrostatic Precipitators use Form APC-90, entitled "Data and Information for Existing Electrostatic Precipitators").

Total number of Forms APC-62 included with this application: 0

Total number of Forms APC-90 included with this application: 0

21. If the startup of any emission source covered by this application produces contaminants which exceed the applicable emission standards, the applicant shall complete Section "A" of Form APC-94, entitled "Operation During Malfunctions, Breakdowns, or Startups."

Total number of Forms APC-94 included with this application: 0

22. If the applicant is applying for permission to operate any emission source during malfunctions or breakdowns pursuant to Chapter 2, Rule 105, he shall complete Section "B" of Form APC-94, entitled "Operation During Malfunctions, Breakdowns, or Startups."

Total number of Forms APC-94 included with this application: 0

23. If all or any part of the manufacturing process which is the subject of this Operating Permit application must be controlled or otherwise modified to comply with applicable substantive Regulations, the applicant shall complete Form APC-95, entitled "Compliance Plan."

24. Does the operation covered by this application require an Episode Action Plan? ☐ YES ☒ NO

If "Yes", give the date such plan was filed with the Agency (if it has not been filed, the applicant shall complete Form APC-100, entitled "Episode Action Plan").

Date Plan submitted: _____

25. State whether each of the applicant's emission sources covered by this application was, as of April 14, 1972, operating within the applicable limitations of the "Rules and Regulations Governing the Control of Air Pollution," adopted by the former Air Pollution Control Board and continued effective pursuant to Section 49(c) of the Environmental Protection Act.

For each such emission source in compliance as of April 14, 1972, state the basis for your conclusions and attach your statements as Exhibit B.

For each such emission source not in compliance as of April 14, 1972, state the basis for your conclusions and attach your statements as Exhibit C.

Total number of pages in Exhibit B: Below

Total number of pages in Exhibit C: _____

26. Was the applicant's operation the subject of a variance petition filed with the Illinois Pollution Control Board on or before June 13, 1972? ☐ Yes ☐ No

If "Yes", cite PCB number(s): _____ Date of Board Order: _____

State whether the applicant had, on or before April 14, 1972, commenced construction of equipment or modifications sufficient to achieve compliance with the applicable limitations of the "Rules and Regulations Governing the Control of Air Pollution," adopted by the former Air Pollution Control Board and continued effective pursuant to Section 49(c) of the Environmental Protection Act.

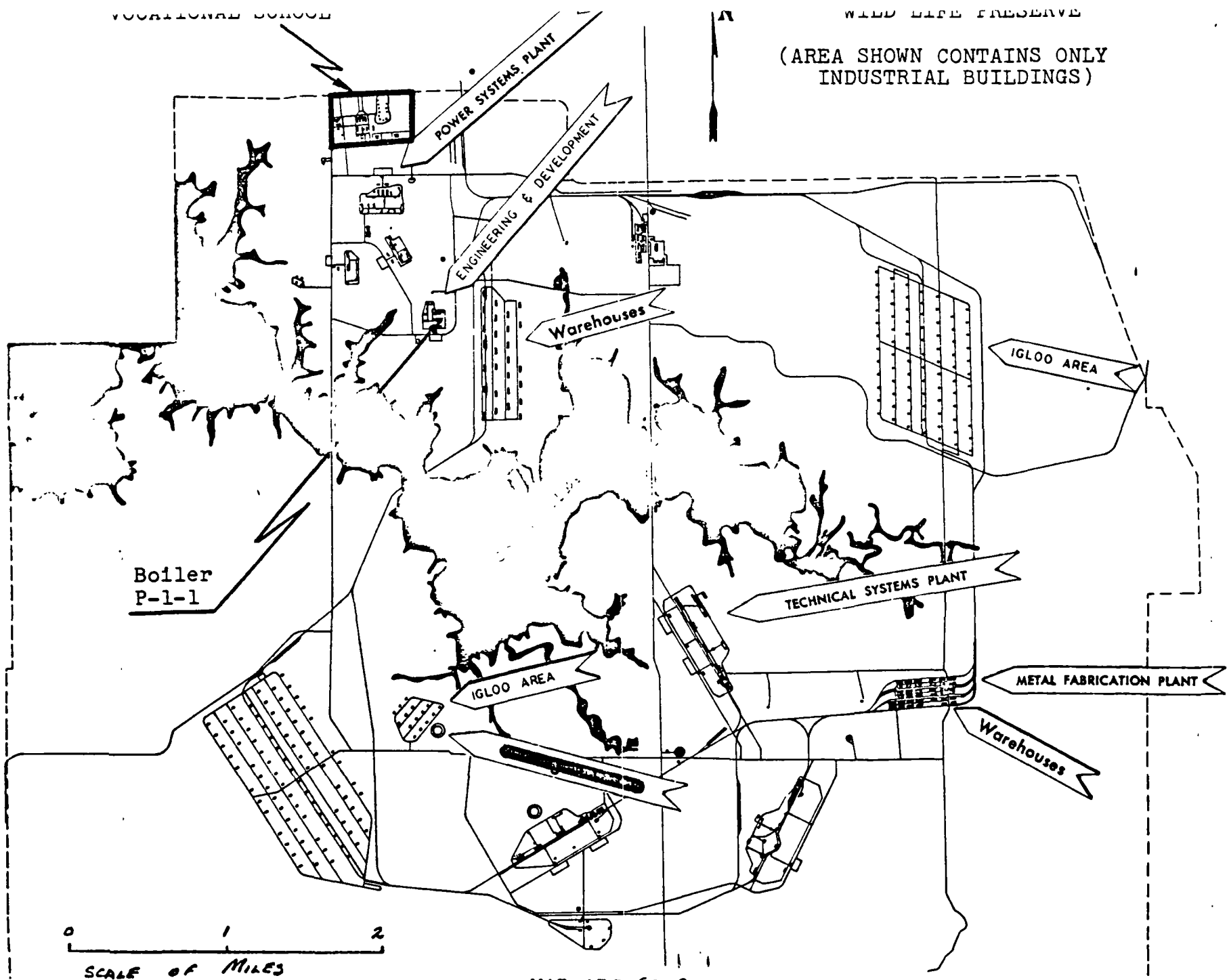
☐ Yes ☐ No

If "No", explain in detail and attach your explanation as Exhibit D.

Total number of pages in Exhibit D: _____

Exhibit B:

This source is assumed to be in compliance based on use of low sulfur fuel oil.



MAP-APC-60-9

001499

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

RICHARD B. OGILVIE, GOVERNOR

WILLIAM L. BLASER, DIRECTOR

DATA AND INFORMATION FOR EXISTING COMBUSTION EQUIPMENT AND INDIRECT HEATING

FOR OFFICIAL USE ONLY

I.D. NO.

PERMIT NO. F

DATE

1a. NAME OF OWNER: Olin Corporation	1b. NAME OF OPERATOR: Same
2a. STREET ADDRESS OF OWNER: P.O. Drawer G	2b. STREET ADDRESS OF OPERATOR:
3a. CITY OF OWNER: Marion	3b. CITY OF OPERATOR:
4a. STATE OF OWNER: Illinois	4b. ZIP CODE: 62959
5a. STATE OF OPERATOR:	5b. ZIP CODE:

6. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER):

7. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	8. STREET ADDRESS OF EMISSION SOURCE: Crab Orchard Refuge
9a. CITY:	9b. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO
10. COUNTY: Williamson	11. ZIP CODE:

12. WAS THE EQUIPMENT DESCRIBED IN THIS INFORMATIONAL FORM INSTALLED AT THE PLANT OR PREMISES OF THE APPLICANT ON OR BEFORE APRIL 14, 1972?

☒ YES ☐ NO

IF "NO," STATE WHETHER THE APPLICANT HAD, ON OR BEFORE APRIL 14, 1972, ENTERED INTO A BINDING AGREEMENT OR CONTRACTUAL OBLIGATION TO UNDERTAKE AND COMPLETE, WITHIN A REASONABLE TIME, A CONTINUOUS PROGRAM OF CONSTRUCTION OR MODIFICATION OF THE EQUIPMENT DESCRIBED IN THIS INFORMATIONAL FORM:

☐ YES ☐ NO

13. THE APPLICANT SHALL PROVIDE THE RESULTS OF TESTS CONDUCTED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF CHAPTER 2, AIR POLLUTION, WHICH SHOW WHETHER OR NOT THE EMISSIONS OF CONTAMINANTS FROM THIS EMISSION SOURCE, EITHER ALONE OR IN COMBINATION WITH CONTAMINANTS FROM OTHER SOURCES LOCATED AT THE SAME PLANT OR PREMISES OF THE APPLICANT, COMPLY WITH APPLICABLE SUBSTANTIVE REGULATIONS OF CHAPTER 2, AIR POLLUTION.

IN LIEU OF ONE OR MORE OF SUCH TESTS, THE APPLICANT MAY SUBMIT OTHER STANDARD TESTING INFORMATION OR THE DETAILS AND RESULTS OF ENGINEERING STUDIES SUFFICIENT TO ACCURATELY ESTIMATE THE RATES OF EMISSIONS OF CONTAMINANTS FROM THIS EMISSION SOURCE AND FURTHER TO SHOW WHETHER OR NOT THE EMISSIONS OF SUCH CONTAMINANTS, EITHER ALONE OR IN COMBINATION WITH CONTAMINANTS FROM OTHER SOURCES LOCATED AT THE SAME PLANT OR PREMISES OF THE APPLICANT, COMPLY WITH APPLICABLE SUBSTANTIVE REGULATIONS OF CHAPTER 2, AIR POLLUTION.

THESE DATA AND INFORMATION CONSIST OF APPLICATION FORMS AND OTHER EXHIBITS LISTED BY TITLE AND NUMBER OF PAGES BELOW.

Form APC-86, 3 pages

001500

I.D. NO. [ ] FOR OFFICIAL USE ONLY P.E. APPLICATION NO. F [ ]

GENERAL INFORMATION

NOTE: APPLICANT MUST SUBMIT TWO COPIES (THREE IF LOCATED IN COOK COUNTY) OF EACH OF THE FOLLOWING:
1. CONSTRUCTION PERMIT APPLICATION FORM (SEPARATE APPLICATION FORMS FOR EACH ITEM OF CONTROL EQUIPMENT NOT COVERED BY AN ATTACHED ADDENDUM).
2. DIMENSIONED DRAWINGS, PLAN, ELEVATION (SECTIONED WHERE NECESSARY AND WHERE APPLICABLE) AND PLOT PLAN AND MAP SHOWING DISTANCES TO NEAREST BOUNDARY OF THE PROPERTY ON WHICH THE CONTROL EQUIPMENT IS LOCATED, AND THE DISTANCES TO NEAREST RESIDENCES, LODGINGS, NURSING HOMES, HOSPITALS, SCHOOLS, AND COMMERCIAL AND MANUFACTURING ESTABLISHMENTS.
3. FLOW DIAGRAM AS SPECIFIED IN THE INSTRUCTION SHEET.

4. BOILER MANUFACTURER: York-Shipley
15. MODEL NUMBER: H 45655
16. SERIAL NUMBER: IND 141082
7. OPERATION TIME OF BOILER: 24 HRS/DAY 7 DAYS/WK 52 WKS/YR
18. PERCENT OF ANNUAL THROUGHPUT: DEC-FEB 45 % MAR-MAY 22 % JUNE-AUG 11 % SEPT-NOV 22 %
9. RATED HEAT INPUT: 4100 THOUSAND BTU/HR
20. TOTAL COST OF HEATING EQUIPMENT (NOT INCLUDING INSTALLATION): $ 8000
1. OPERATING PRESSURE OF BOILER: 75 PSIG
22. PERCENT CAPACITY USED FOR SPACE HEATING: 100%

GAS FIRED UNITS

3. GAS BURNER MANUFACTURER & MODEL NUMBER:
24. BURNER VOLUME: FT^3
25. RETENTION TIME: SEC
6. MAXIMUM FIRING RATE: SCFH
27. AVERAGE FIRING RATE: SCFH
28. AVERAGE HEAT CONTENT: BTU/FT^3
9. AVERAGE SULFUR CONTENT: % BY WT
30. EST. ANNUAL CONSUMPTION: SCF
31. EXCESS AIR: % BY VOL

OIL FIRED UNITS

2. OIL BURNER MANUFACTURER & MODEL NUMBER: York-Shipley
34. BURNER VOLUME: FT^3
4. RETENTION TIME: SEC
35. MAXIMUM FIRING RATE: 3450 THOUSAND BTU/HR
36. AVERAGE FIRING RATE: 1350 THOUSAND BTU/HR
7. TYPE OF OIL: #2*
38. EST. ANNUAL CONSUMPTION: 750,000 LB
39. AVERAGE HEAT CONTENT OF OIL: 18,900 BTU/LB
0. EXCESS AIR: % BY VOL
41. AVERAGE SULFUR CONTENT: 0.4 % BY WT
42. AVERAGE ASH CONTENT: % BY WT
3. OIL BURNER TYPE: ☐ ATOMIZING ☐ STEAM OR AIR ATOMIZING ☐ OTHER SPECIFY
44. DIRECTION OF FIRING: ☒ HORIZONTAL ☐ TANGENTIAL
5. OIL BURNER CONTROL: ☐ MANUAL ☐ AUTOMATIC ON-OFF ☐ AUTOMATIC HIGH-LOW ☒ AUTOMATIC FULL MODULATION

COAL FIRED UNITS

6. TYPE OF COAL: ☐ BITUMINOUS ☐ ANTHRACITE ☐ OTHER SPECIFY
47. AVERAGE SULFUR CONTENT: % BY WT
48. AVERAGE ASH CONTENT: % BY WT
49. MAXIMUM FIRING RATE: THOUSAND BTU/HR
50. AVERAGE FIRING RATE: THOUSAND BTU/HR
51. VOLATILE CONTENTS: % BY WT
52. EXCESS AIR: % BY WT
53. MAXIMUM SULFUR CONTENT: % BY WT
54. MOISTURE CONTENT: % BY WT
5. AVERAGE HEAT VALUE: BTU/LB
56. IDENTIFY SOURCE OF COAL BY MINE AND SEAM:
57. ANNUAL CONSUMPTION: TONS/YR
8. TYPE OF FIRING:
a. ☐ PULVERIZED DRY BOTTOM
b. ☐ PULVERIZED WET BOTTOM
c. ☐ CYCLONE
d. ☐ SPREADER NO REINJECTION
e. ☐ SPREADER ____ % REINJECTION
f. ☐ OTHER SPECIFY
9. DIRECTION OF FIRING: ☐ HORIZONTAL ☐ VERTICAL ☐ TANGENTIAL ☐ CORNER ☐ OTHER SPECIFY

* In case of emergency (when #2 fuel oil is not available) Special Fuel Oil may be used. Special Fuel Oil is a distillate oil with viscosity and boiling fraction similar to #2 fuel oil. Special Fuel Oil contains 0.9% sulfur and has 19,200 BTU/lb.

001501

NO. | FOR OFFICIAL USE ONLY | PERMIT APPLICATION NO. F

EXHAUST GAS ANALYSIS
(PRIOR TO PASSAGE THROUGH ANY CONTROL EQUIPMENT)

IF THE EMISSION SOURCE WHICH IS THE SUBJECT OF THIS CONSTRUCTION PERMIT APPLICATION IS SERVED BY MORE THAN ONE EXHAUST STACK OR VENT, THE APPLICANT SHALL COMPLETE SEPARATE SHEETS FOR EACH SUCH STACK OR VENT.

MINANT	CONCENTRATION	EMISSION RATE	METHOD OF MEASURE AND ANALYSIS	METHOD OF MONITORING
CARBON MONOXIDE	a. Unknown PPM	b. Unknown LB/10^6BTU	c. None	d. None
CARBON DIOXIDE	a. " PPM	b. " LB/10^6BTU	c. "	d. "
CHLORINE	a. " PPM	b. " LB/10^6BTU	c. "	d. "
HYDROCARBONS AS CH_4	a. " PPM	b. " LB/10^6BTU	c. "	d. "
HYDROGEN CHLORIDE	a. " PPM	b. " LB/10^6BTU	c. "	d. "
HYDROGEN SULFIDE	a. " PPM	b. " LB/10^6BTU	c. "	d. "
NITROGEN	a. " PPM	b. " LB/10^6BTU	c. "	d. "
NITROGEN OXIDES AS NO_2	a. " PPM	b. " LB/10^6BTU	c. "	d. "
SULFUR DIOXIDE	a. " PPM	b. " LB/10^6BTU	c. "	d. "
OTHER (SPECIFY)	a. " PPM	b. " LB/10^6BTU	c. "	d. "
PARTICULATE MATTER	a. " GRAIN/SCF	b. " LB/10^6BTU	c. "	d. "

PARTICULATE MATTER COMPOSITION EXPRESSED AS PERCENT BY WEIGHT OF EACH COMPONENT (COMMON NAME SHALL BE GIVEN IF CHEMICAL NAME IS UNKNOWN):

: THIS SECTION TO BE COMPLETED ONLY IF EMISSIONS ARE EXHAUSTED DIRECTLY TO THE ATMOSPHERE WITHOUT ANY CONTROL EQUIPMENT:

HOW EMISSIONS ARE EXHAUSTED: ☒ STACK ☐ VENT	73. GAS EXIT VELOCITY: FPS	74. GAS EXIT TEMPERATURE: 400 °F

DRAFT CONTROLS: ☐ MANUAL ☒ AUTOMATIC ☐ BAROMETRIC ☐ OTHER (SPECIFY)

DISTANCE OF THE STACK OR VENT FROM THE NEAREST PLANT BOUNDARY OF THE APPLICANT: 240 FT.	77. HEIGHT OF STACK OR VENT ABOVE GRADE: 31 FT.
HEIGHT OF STACK OR VENT ABOVE ROOF: 16 FT.	79. HEIGHT OF TALLEST BUILDING WITHIN 150 FEET: 20 FT.
YOUR DESIGNATION OF STACK: P-1-1	81. AREA OF STACK OR VENT AT EXIT: 1.1 FT^2

IF OTHER EMISSION SOURCES OR AIR POLLUTION CONTROL EQUIPMENT ARE EXHAUSTED THROUGH THE STACK OR VENT SERVING THE EQUIPMENT COVERED BY THIS APPLICATION, THE APPLICANT SHALL DEFINE THE EMISSIONS FROM SUCH OTHER EQUIPMENT AND ATTACH SUCH INFORMATION TO THIS APPLICATION AS EXHIBIT G.

TOTAL NUMBER OF PAGES IN EXHIBIT G: _____

THE APPLICANT SHALL SUBMIT AN ESTIMATE OF THE MAXIMUM ONE-HOUR AMOUNTS OF PARTICULATE MATTER, SULFUR DIOXIDE, CARBON MONOXIDE, OXIDES OF NITROGEN, AND HYDROCARBONS (AS METHANE) EMITTED FROM ALL SOURCES LOCATED ON THE PLANT OR PREMISES, INCLUDING THE EMISSIONS ESTIMATED FROM THE EQUIPMENT COVEPED BY THIS APPLICATION, AND THE AREA (IN ACRES) OF THE PLANT OR PREMISES OF THE APPLICANT.

MATERIAL	ONE-HOUR MAX. AMOUNTS	MATERIAL	ONE-HOUR MAX. AMOUNTS	MATERIAL	ONE-HOUR MAX. AMOUNTS
PARTICULATE MATTER	5.4 LB	SULFUR DIOXIDE	20.3 LB	NITROGEN OXIDES AS NO_2	28.8 LB
HYDROCARBONS AS CH_4	0.1 LB	CARBON MONOXIDE	0.1 LB		200 acres

-86

001502

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

2200 Churchill Road Springfield, Illinois 62706

Mary Lee Leahy, Director

MAY 17, 1973

PERMIT EXPIRATION DATE 05-30-75

OLIN CORPORATION
PO DRAWER G
MARION, IL.
62959

ATTENTION - R C MENKEN

REFERENCE
APPLICATION NO. - 03030720
ID NUMBER - 199055AAR BOIL P-1-1
RECEIVED - 04-18-73
OPERATION OF - BOILER P-1-1
LOCATION - CRAB ORCHARD REFUGE
MARION
WILLIAMSON

GENTLEMEN

PERMIT IS HEREBY GRANTED TO OPERATE THE ABOVE-REFERENCED EQUIPMENT.

THIS PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS

1. STANDARD CONDITIONS ATTACHED HERETO AND INCORPORATED HEREIN BY REFERENCE.

VERY TRULY YOURS,

KEITH J. CONKLIN, P.E.
MANAGER, PERMIT SECTION
DIVISION OF AIR POLLUTION CONTROL

GKM

001503

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR OPERATING PERMITS

1 The issuance of an operating permit by the Agency does not release the permittee from compliance with other applicable statutes of the State of Illinois or with applicable local laws, regulations or ordinances.

2 The Agency has granted this permit based upon the information submitted by the permittee in his permit application. Any misinformation, false statement or misrepresentation in the permittee's application shall be grounds for revocation under Rule 103(f), Chapter 2, Part 1 of the Illinois Pollution Control Board Rules and Regulations.

3 The permittee shall not authorize, cause, direct or allow any modification, as defined in Rule 101, Chapter 2, Part 1, of the Illinois Pollution Control Board Rules and Regulations, of equipment, operations or practices which are reflected in the permit application as submitted unless a new application or request for revision of existing application is filed with the Agency at least ninety (90) days prior to the time of such modification and unless a new permit or revision of existing permit is granted for such modification.

4 At any time, any agent of the Environmental Protection Agency shall have the right and authority to inspect such equipment and operation as described by the referenced operating permit application. Permittee agrees to allow such inspections. This authority:

(a) shall not in any manner affect the title to the premises upon which the equipment is located.

(b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of, the design, installation, maintenance, or operation of the proposed equipment.

(c) in no manner implies or suggests that the Environmental Protection Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment.

5 The equipment covered by this permit shall be operated in such a manner that the disposal of air contaminants collected by the equipment shall not cause a violation of the Environmental Protection Act or Regulations promulgated thereunder.

6 The permittee shall maintain the equipment in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or Regulations promulgated thereunder.

7 The permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment. This record shall be available to any agent of the Environmental Protection Agency at anytime. This record shall show, as a minimum, the following:

(a) Date of performance of, and nature of, preventive maintenance.

(b) Date of any malfunction or breakdown and the nature of repairs to, or corrective measures performed to maintain the performance of, the equipment. The permittee may use form APC-159, Malfunction or Breakdown Report, for record keeping purposes.

8. The permittee shall submit annually, beginning one year from the date this operating permit was granted, an annual Emission and Malfunction Report, form APC-160 as required by Rule 107 of the Air Pollution Control Regulations.

9 If the permit application contains information which has been accepted as confidential by the Agency, the Agency will return a copy of the application to the permittee. The permittee shall maintain on the premises this copy of the application intact and without change. The permittee shall make available this copy of the application for the perusal of any agent of the Environmental Protection Agency at any time.

10. If the referenced permit application contains a Compliance Plan (APC-95) and a Project Completion Schedule (APC-98), the permittee shall submit a Project Completion Report (APC-156) within thirty (30) days of any date specified in the Project Completion Schedule, or at six month intervals, which ever is more frequent.

11 If the referenced permit contains permission to operate in excess of applicable emission standards during startup, the permittee shall keep a record of each startup, including information as to the length of time that such operation exceeded applicable standards and limitations, and a detailed explanation of why such startup was necessary.

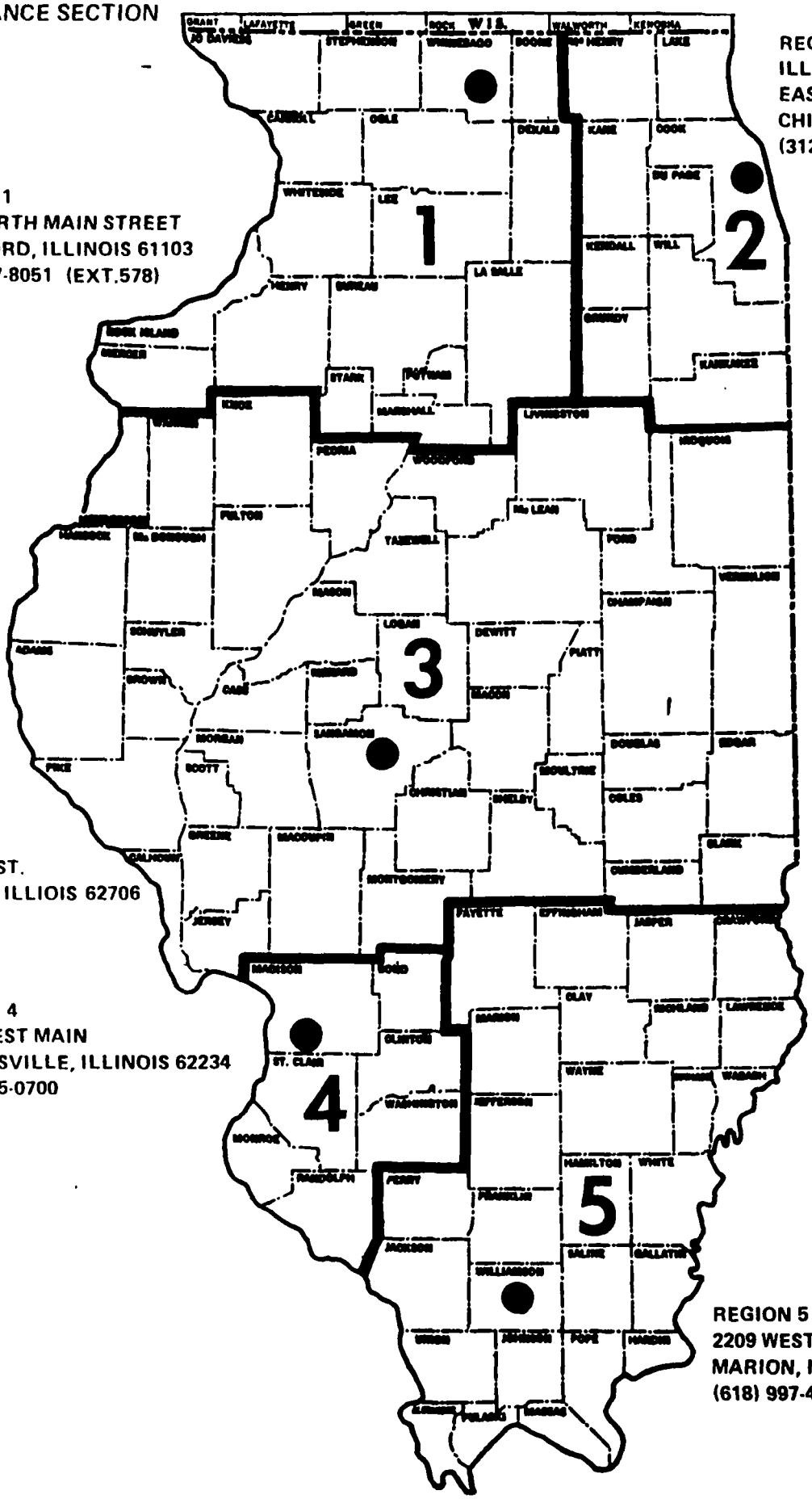
12 If the referenced permit contains permission to operate in excess of applicable emission standards during malfunctions or breakdown, the permittee shall immediately notify the Agency's regional Surveillance office by telegram upon occurrence of malfunction or breakdown, and comply with all directives of the regional office with respect to the incident. (See map on reverse side)

The permittee shall maintain records of such malfunctions or breakdowns. These records shall include: a full and detailed explanation of why such breakdown occurred; the length of time during which operation continued under conditions of malfunction or breakdown; the measures the permittee used to reduce the length of time of such operation; and the steps the permittee will take to prevent future similar malfunctions or breakdowns. The permittee may use form APC-159, Malfunction and Breakdown Report, for record keeping purposes. This record shall be available to any agent of the Environmental Protection Agency at any time.

The permittee shall not continue operation during malfunction or breakdown beyond such time as is necessary to prevent injury to persons or severe damage to equipment or to provide essential services.

001504

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
SURVEILLANCE SECTION



REGION 1
4302 NORTH MAIN STREET
ROCKFORD, ILLINOIS 61103
(815) 877-8051 (EXT.578)

REGION 2
ILLINOIS NAVAL ARMORY
EAST RANDOLPH & THE LAKE
CHICAGO, ILLINOIS 60602
(312) 341-4696

REGION 3
4500 S. SIXTH ST.
SPRINGFIELD, ILLIOIS 62706
(217) 786-6895

REGION 4
115A WEST MAIN
COLLINSVILLE, ILLINOIS 62234
(618) 345-0700

REGION 5
2209 WEST MAIN
MARION, ILLINOIS 62959
(618) 997-4371

001505

Illinois Environmental Protection Agency 2200 Churchill Road Springfield, IL 62706

217/782-2113

JOINT CONSTRUCTION AND OPERATING PERMIT

PERMITTEE

Olin Corp.
Attention: Arthur Heinz
P.O. Drawer G
Marion, Illinois 62959

Application No.: 85010047
Applicant's Designation: TORIT-B-85
Subject: Propellant Mixing and Handling
Date Issued: February 20, 1985
Location: Crab Orchard Wildlife Refuge, Marion

I.D. No.: 199862AAB
Date Received: January 25, 1985
Operating Permit Expiration Date: February 19, 1990

Permit is hereby granted to the above-designated Permittee to CONSTRUCT and OPERATE emission source(s) and/or air pollution control equipment consisting of a propellant mixing and handling operation with a baghouse as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Operation of the emission source(s) included in this permit shall not begin until all associated air pollution control equipment has been constructed and is operational.

2. This permit is issued based upon the minimal hourly emission rate from the propellant mixing and handling, and negligible annual emissions (less than 0.1 ton/year) of particulate matter.

Bharat Mathur, P.E.
Manager, Permit Section
Division of Air Pollution Control

BM:DMH:bjh/0341E/31

cc: Region 3

RECEIVED
FEB 27 1985
A. HEINZ

001703

STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS
ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

July 1, 1979

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year after date of issuance unless construction or development on this project has started on or prior to that date.

2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.

3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.

4. The permittee shall allow any agent duly authorized by the Agency upon the presentation of credentials:

   a. to enter at reasonable times the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit.

   b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit.

   c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit.

   d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants.

   e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;

   c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;

   d. does not take into consideration or attest to the structural stability of any units or parts of the project;

   e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the Agency before the facility or equipment covered by this permit is placed into operation.

7. These standard conditions shall prevail unless modified by special conditions.

8. The Agency may file a complaint with the Board for modification, suspension or revocation of a permit:

   a. upon discovery that the permit application contained misrepresentations, misinformation or false statements or that all relevant facts were not disclosed; or

   b. upon finding that any standard or special conditions have been violated; or

   c. upon any violations of the Environmental Protection Act or any Rule and Regulation effective thereunder as a result of the construction or development authorized by this permit.

9. Unless otherwise specified in this construction permit, the equipment covered by this permit may be operated for a limited period of time, not to exceed thirty (30) days, for the purpose of shakedown and testing.

2316H/sp

DIRECTORY
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL

For assistance in preparing a permit application contact the Permit Section.

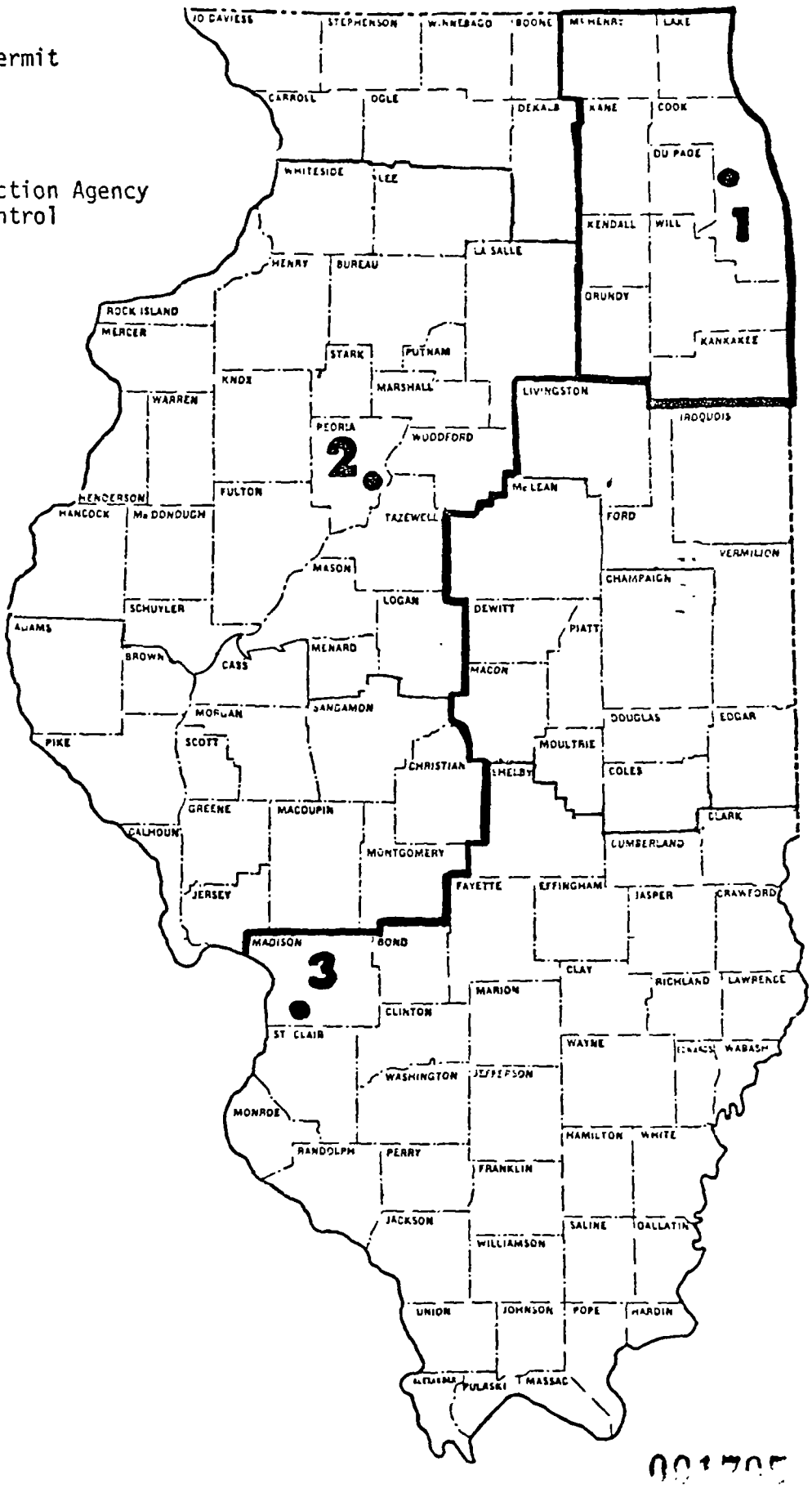
Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section
2200 Churchill Road
Springfield, Illinois 62706
(217) 782-2113

or a regional office of the Field Operations Section. The regional offices and their areas of responsibility are shown on the map. The addresses and telephone numbers of the regional offices are as follows:

Region 1
Intercontinental Center
Suite 1205 - 1701 1st Avenue
Maywood, Illinois 60153
(312) 345-9780

Region 2
5415 North University
Peoria, Illinois 61614
(309) 691-2200

Region 3
115A West Main
Collinsville, Illinois 62234
(618) 345-0700



STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR OPERATING PERMITS

1 The issuance of an operating permit by the Agency does not release the permittee from compliance with other applicable statutes of the State of Illinois or with applicable local laws, regulations or ordinances.

2. The Agency has granted this permit based upon the information submitted by the permittee in the permit application Any misinformation, false statement of misrepresentation in the permittee's application shall be grounds for revocation under Rule 103(f), Chapter 2, Part 1 of the Illinois Pollution Control Board Rules and Regulations.

3. The permittee shall not authorize, cause, direct or allow any modification, as defined in Rule 101, Chapter 2, Part 1 of the Illinois Pollution Control Board Rules and Regulations, of equipment, operations or practices which are reflected in the permit application as submitted unless a new application or request for revision of existing application is filed with the Agency at least ninety (90) days prior to the time of such modification and unless a new permit or revision of existing permit is granted for such modification.

4. At any time during normal working and/or operating hours, any agent of the Environmental Protection Agency shall have the right and authority to inspect the equipment and operations described by the permit application Permittee agrees to allow such inspections This authority.

   (a) shall not in any manner affect the title to the premises upon which such equipment is located,

   (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of, the design, installation, maintenance, or operation of such equipment, and

   (c) in no manner implies or suggests that the Environmental Protection Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of such equipment.

5 The equipment covered by this permit shall be operated in such a manner that the disposal of air contaminants collected by the equipment shall not cause a violation of the Environmental Protection Act or Regulations promulgated thereunder.

6. The permittee shall maintain the equipment in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or Regulations promulgated thereunder

7. The permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment. This record shall be available to any agent of the Environmental Protection Agency at any time during normal working and/or operating hours This record shall show, as a minimum, the

   (a) date of performance of, and nature of, preventative maintenance, and

   (b) date of any malfunction or breakdown and the nature of repairs to, or corrective measures performed to maintaining the performance of the equipment.

8 The permittee shall submit annually, beginning one year from the date of this operating permit, an "Annual Emission Report," form APC-208, as required by Rule 107 of the PCB Regs , Chapter 2, Part 1. (Note: If the permittee has other operating permits for this facility, he may submit the "Annual Emission Report" for all such permits in a single annual submission.)

9 **If the permit application contains a "Compliance Program and Project Completion Schedule,"** form APC-202, the permittee shall submit a "Project Completion Report" form APC-271, within thirty (30) days of any date specified in the "Compliance Program and Project Completion Schedule" or at six month intervals, whichever is more frequent.

10. **If the permit contains permission to operate in excess of applicable emission standards during startup,** the permittee shall keep a record of each startup, including information as to the length of time that such operation exceeded applicable standards and limitations, and a detailed explanation of why such startup was necessary

11 **If the permit contains permission to operate in excess of applicable emission standards during malfunctions or breakdowns,** the permittee shall immediately notify the Agency's regional Field Operations Section office by telegram upon occurrence of malfunction or breakdown, and comply with all directives of the regional office with respect to the incident. (See map on reverse side.)

The permittee shall maintain records of such malfunctions or breakdowns These records shall include. a full and detailed explanation of why such breakdown occurred, the length of time during which operation continued under conditions and malfunction or breakdown; the measures the permittee used to reduce the length of time of such operation; and the steps the permittee will take to prevent future similar malfunctions or breakdowns. This record shall be available to any agent of the Environmental Protection Agency at any time during normal working and/or operating hours.

The permittee shall not continue operation during malfunction or breakdown beyond such time as is necessary to prevent injury to persons or severe damage to equipment or to provide essential services

Revised 8/1/83

DIRECTORY
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL

For assistance in preparing a permit application contact the Permit Section.

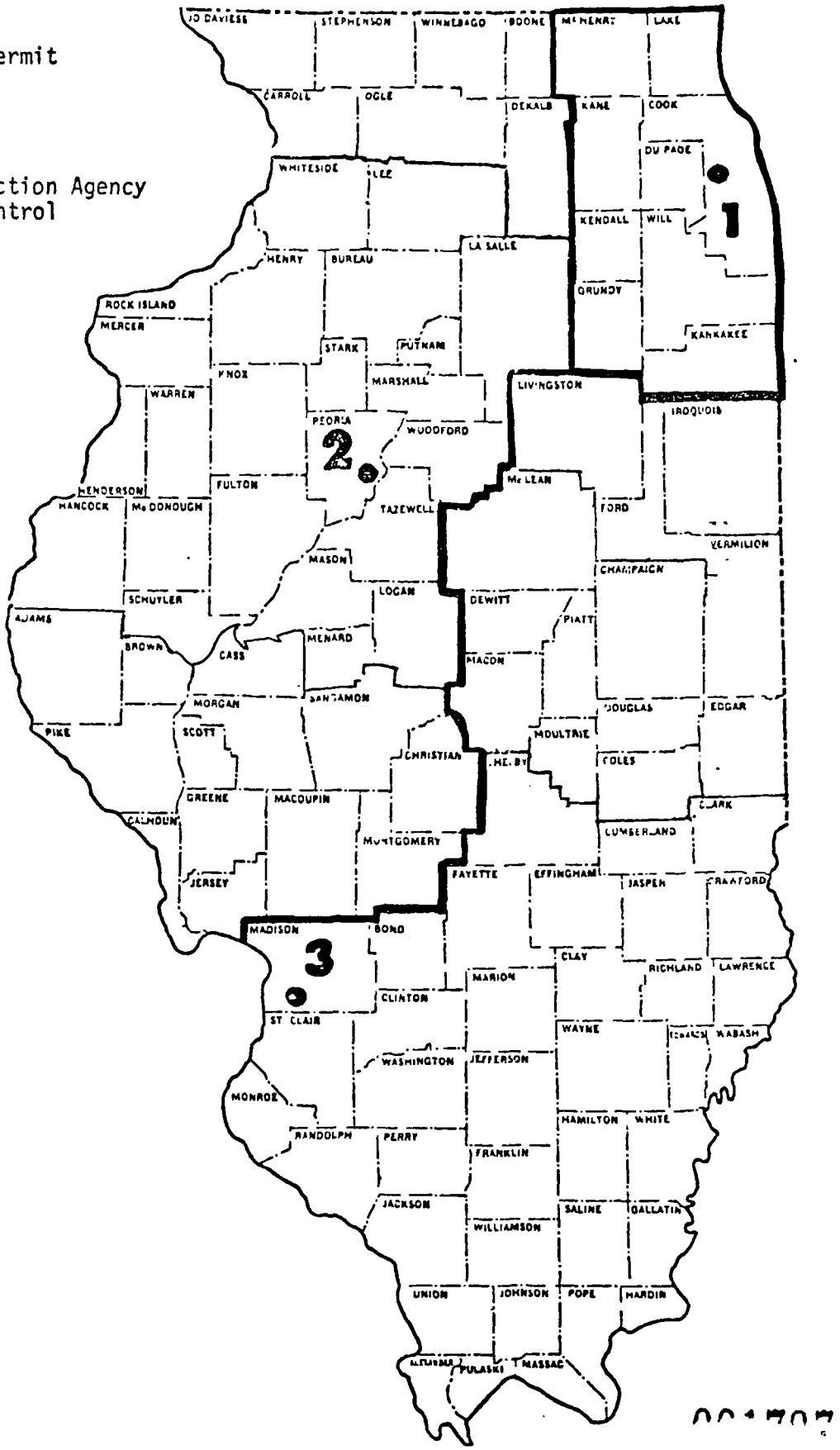
Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section
2200 Churchill Road
Springfield, Illinois 62706
(217) 782-2113

or a regional office of the Field Operations Section. The regional offices and their areas of responsibility are shown on the map. The addresses and telephone numbers of the regional offices are as follows:

Region 1
Intercontinental Center
Suite 1205 - 1701 1st Avenue
Maywood, Illinois 60153
(312) 345-9780

Region 2
5415 North University
Peoria, Illinois 61614
(309) 691-2200

Region 3
115A West Main
Collinsville, Illinois 62234
(618) 345-0700



Olin

P O DRAWER G MARION ILLINOIS 62959 • PHONE AC 618 985-8211

ORDNANCE PRODUCTS

16 January 1985

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

ATTENTION: Mr. Bharat Mathur, Permits Section

Dear Mr. Mathur:

In compliance with Title 35: Environmental Protection, Subtitle B: Air Pollution, Chapter I: Pollution Control Board, Part 201, enclosed herewith are provided three copies of a Construction and Operating Permit Application for the installation and operation of a propellant mixing and handling process in the area Olin Corporation designates as the "B" Area. The application has been designated as "TORIT-B-85".

If additional information or clarification is needed, please contact the undersigned at (618) 985-8211.

Cordially yours,

Arthur Heinz, Jr.
Director

AHJ:JMS/kc

Attachment

001708

P12 9059738

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Trit B85

Schneiderman

SENT TO Ill EPA
Dw of Air Pollution Control
STREET AND NO
2200 Churchill Road
P.O., STATE AND ZIP CODE
Springfield, Ill 62706

POSTAGE		$2.24
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE X	75¢
OPTIONAL SERVICES	SPECIAL DELIVERY	¢
	RESTRICTED DELIVERY	60¢
RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	¢
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY	¢
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES		$3.59
POSTMARK OR DATE		

JAN 22 1985

PS Form 3800, Apr 1976

PS Form 3811, July 1982

Trit B85

RETURN RECEIPT

● SENDER: Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
   - [X] Show to whom and date delivered ..... ¢
   - [ ] Show to whom, date, and address of delivery .. ¢
2. [ ] RESTRICTED DELIVERY ..... ¢
   (The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $

3. ARTICLE ADDRESSED TO: Ill. EPA
Dw of Air Pollution Control
2200 Churchill Road
Springfield, Ill 62706

4. TYPE OF SERVICE:
   - [ ] REGISTERED
   - [X] CERTIFIED
   - [ ] EXPRESS MAIL
   - [ ] INSURED
   - [ ] COD

ARTICLE NUMBER
P12
9059738

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE OR AGENT
Illinois Environmental Protection Agcy.
2200 Churchill Road
Springfield, Illinois 62706

5. DATE OF DELIVERY
JAN 25 1985

POSTMARK (may be on reverse side)

6. ADDRESSEE'S ADDRESS (Only if requested)

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS

☆ GPO: 1982-379-593

001709

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This agency is authorized to require this information under Illinois Revised Statutes 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

APPLICATION FOR A PERMIT (A)

☒ CONSTRUCT ☒ OPERATE

NAME OF EQUIPMENT TO BE CONSTRUCTED OR OPERATED: PROPELLANT MIXING AND HANDLING (B)

FOR AGENCY USE ONLY

I. D. NO. _____

PERMIT NO. _____

DATE _____

1a. NAME OF OWNER:		2a. NAME OF OPERATOR:	
OLIN CORPORATION		OLIN CORPORATION	
1b. STREET ADDRESS OF OWNER:		2b. STREET ADDRESS OF OPERATOR:	
P.O. DRAWER G		P.O. DRAWER G	
1c. CITY OF OWNER:		2c. CITY OF OPERATOR:	
MARION		MARION	
1d. STATE OF OWNER:	1e. ZIP CODE:	2d. STATE OF OPERATOR:	2e. ZIP CODE:
ILLINOIS	62959	ILLINOIS	62959

3a. NAME OF CORPORATE DIVISION OR PLANT:		3b. STREET ADDRESS OF EMISSION SOURCE:		
ORDNANCE PRODUCTS		CRAB ORCHARD WILDLIFE REFUGE		
3c. CITY OF EMISSION SOURCE:	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	3e. TOWNSHIP:	3f. COUNTY:	3g. ZIP CODE:
RURAL MARION		N/A	WILLIAMSON	62959

4. ALL CORRESPONDENCE TO: (TITLE AND/OR NAME OF INDIVIDUAL)	5. TELEPHONE NUMBER FOR AGENCY TO CALL:
ARTHUR HEINZ, JR., DIRECTOR	(618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) ☒ OWNER: ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR DESIGNATION FOR THIS APPLICATION: (C) TORIT-B-85

8. THE UNDERSIGNED HEREBY MAKES APPLICATION FOR A PERMIT AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. BY AFFIXING HIS SIGNATURE HERETO HE FURTHER CERTIFIES THAT HE IS AUTHORIZED TO EXECUTE THIS APPLICATION.

AUTHORIZED SIGNATURE(S): (D)

BY Arthur Heinz, Jr. 1-16-85
SIGNATURE DATE

ARTHUR HEINZ, JR.
TYPED OR PRINTED NAME OF SIGNER

DIRECTOR
TITLE OF SIGNER

BY _____ _____
SIGNATURE DATE

TYPED OR PRINTED NAME OF SIGNER

TITLE OF SIGNER

(A) THIS FORM IS TO PROVIDE THE AGENCY WITH GENERAL INFORMATION ABOUT THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS FORM MAY ONLY BE USED TO REQUEST ONE TYPE OF PERMIT - CONSTRUCTION OR OPERATION - AND NOT BOTH.

(B) ENTER THE GENERIC NAME OF THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS NAME WILL APPEAR ON THE PERMIT WHICH MAY BE ISSUED PURSUANT TO THIS APPLICATION. THIS FORM MUST BE ACCOMPANIED BY OTHER APPLICABLE FORMS AND INFORMATION.

(C) PROVIDE A DESIGNATION IN ITEM 7 ABOVE WHICH YOU WOULD LIKE THE AGENCY TO USE FOR IDENTIFICATION OF YOUR EQUIPMENT. YOUR DESIGNATION WILL BE REFERENCED IN CORRESPONDENCE FROM THIS AGENCY RELATIVE TO THIS APPLICATION. YOUR DESIGNATION MUST NOT EXCEED TEN (10) CHARACTERS.

(D) THIS APPLICATION MUST BE SIGNED IN ACCORDANCE WITH PCB REGS., CHAPTER 2, PART 1, RULE 103(a)(4) OR 103(b)(5) WHICH STATES: "ALL APPLICATIONS AND SUPPLEMENTS THERETO SHALL BE SIGNED BY THE OWNER AND OPERATOR OF THE EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT, OR THEIR AUTHORIZED AGENT, AND SHALL BE ACCOMPANIED BY EVIDENCE OF AUTHORITY TO SIGN THE APPLICATION."

IF THE OWNER OR OPERATOR IS A CORPORATION, SUCH CORPORATION MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF THE CORPORATION'S BOARD OF DIRECTORS AUTHORIZING THE PERSONS SIGNING THIS APPLICATION TO CAUSE OR ALLOW THE CONSTRUCTION OR OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

☐ YES ☐ NO SEE PAGE 3 OF 28

IF A PLOT PLAN/MAP HAS PREVIOUSLY BEEN SUBMITTED, SPECIFY:

AGENCY I D. NUMBER _____ APPLICATION NUMBER _____

IS THE APPROXIMATE SIZE OF APPLICANT'S PREMISES LESS THAN 1 ACRE?

☐ YES ☒ NO: SPECIFY 200 ACRES

10. DOES THIS APPLICATION CONTAIN A PROCESS FLOW DIAGRAM(S) THAT ACCURATELY AND CLEARLY REPRESENTS CURRENT PRACTICE.

☒ YES ☐ NO SEE PAGE 4 OF 28

11a. WAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, OWNED OR CONTRACTED FOR, BY THE APPLICANT PRIOR TO APRIL 14, 1972:

☐ YES ☒ NO

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT A, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT WAS IN COMPLIANCE WITH THE RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION PRIOR TO APRIL 14, 1972.

11b. HAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, NOT PREVIOUSLY RECEIVED AN OPERATING PERMIT:

☒ YES ☐ NO SEE PAGE 5 OF 28

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT B, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT
(i) IS ORIGINAL OR ADDITIONAL EQUIPMENT
(ii) REPLACES EXISTING EQUIPMENT, OR
(iii) MODIFIES EXISTING EQUIPMENT
(c) PROVIDES THE ANTICIPATED OR ACTUAL DATES OF THE COMMENCEMENT OF CONSTRUCTION AND THE START-UP OF THE EQUIPMENT

12. IF THIS APPLICATION INCORPORATES BY REFERENCE A PREVIOUSLY GRANTED PERMIT(S), HAS FORM APC-210, "DATA AND INFORMATION--INCORPORATION BY REFERENCE" BEEN COMPLETED.

☐ YES ☒ NO

APPLICATION FOR OPERATING PERMIT ONLY

13. DOES THE STARTUP OF AN EMISSION SOURCE COVERED BY THIS APPLICATION PRODUCE AIR CONTAMINANT EMISSION IN EXCESS OF APPLICABLE STANDARDS:

☐ YES ☒ NO

IF "YES," HAS FORM APC-203, "OPERATION DURING STARTUP" BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

14. DOES THIS APPLICATION REQUEST PERMISSION TO OPERATE AN EMISSION SOURCE DURING MALFUNCTIONS OR BREAKDOWNS:

☐ YES ☒ NO

IF "YES," HAS FORM APC-204, "OPERATION DURING MALFUNCTION AND BREAKDOWN" BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

15. IS AN EMISSION SOURCE COVERED BY THIS APPLICATION SUBJECT TO A FUTURE COMPLIANCE DATE·

☐ YES ☒ NO

IF "YES," HAS FORM APC-202, "COMPLIANCE PROGRAM & PROJECT COMPLETION SCHEDULE," BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

16. DOES THE FACILITY COVERED BY THIS APPLICATION REQUIRE AN EPISODE ACTION PLAN (REFER TO GUIDELINES FOR EPISODE ACTION PLANS):

☐ YES ☒ NO

17. WAS THIS OPERATION THE SUBJECT OF A VARIANCE PETITION FILED WITH THE ILLINOIS POLLUTION CONTROL BOARD ON OR BEFORE JUNE 13, 1972:

☐ YES ☒ NO

IF "YES," CITE: PCB NUMBER(S) _____, DATE OF BOARD ORDER _____

WAS CONSTRUCTION OR MODIFICATION OF EQUIPMENT, SUFFICIENT TO ACHIEVE COMPLIANCE WITH THE "RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION" EFFECTIVE PRIOR TO APRIL 14, 1972, COMMENCED PRIOR TO APRIL 14, 1972:

☐ YES ☒ NO

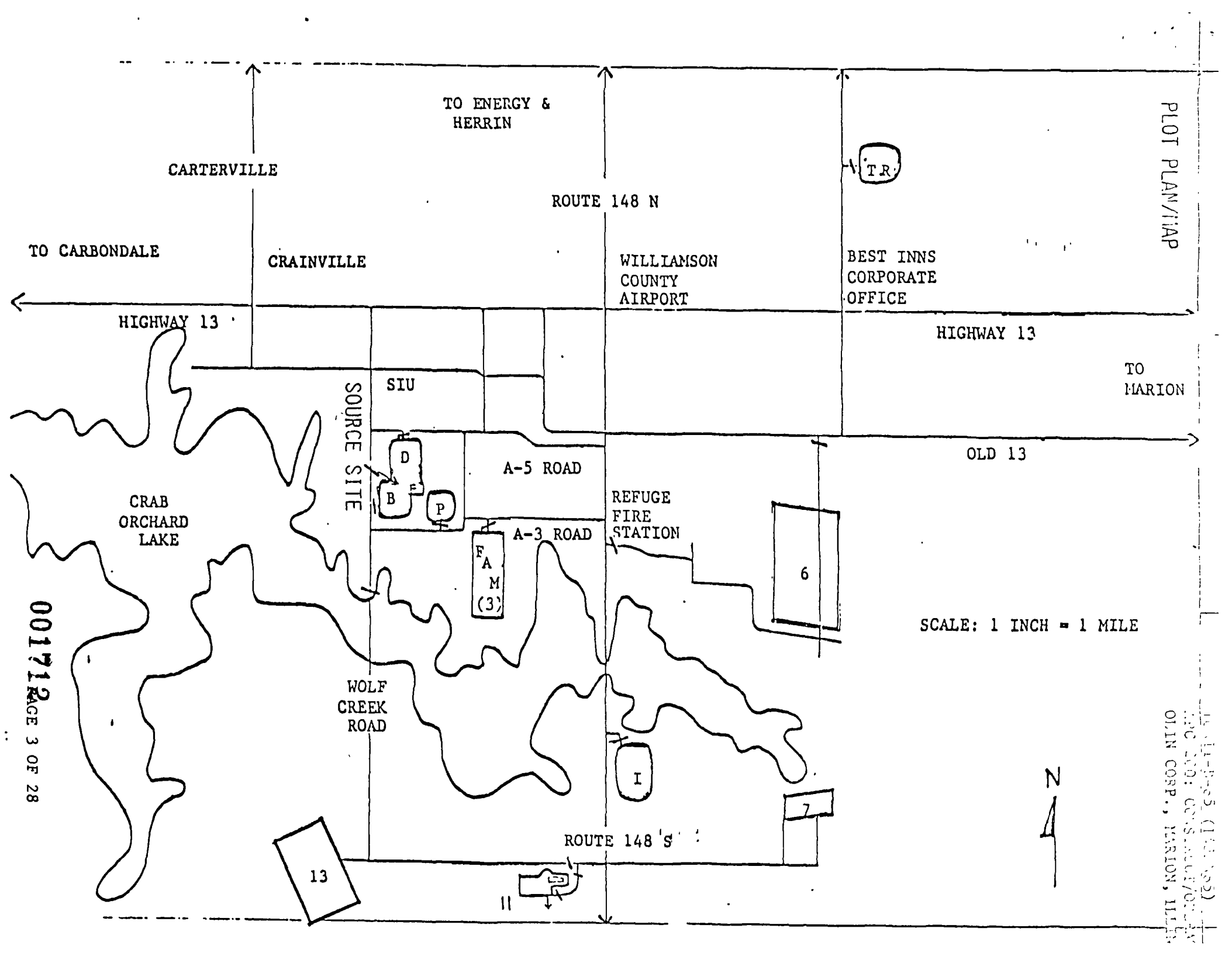
IF "YES," EXPLAIN IN DETAIL, AND IDENTIFY EXPLANATION AS EXHIBIT D.

18. LIST AND IDENTIFY ALL FORMS, EXHIBITS, AND OTHER INFORMATION SUBMITTED AS PART OF THIS APPLICATION. INCLUDE THE PAGE NUMBERS ON EACH ITEM (ATTACH ADDITIONAL SHEETS IF NECESSARY):

	PAGE NO.:		PAGE NO.:
APC 200	1, 2	CERTIFICATE OF LOCAL ZONING APPROVAL	21
PLOT PLAN/MAP	3	ADDENDUM TO APC 200	22
PROCESS FLOW DIAGRAM:PROPELLANT MIXING	4	DELEGATION OF AUTHORITY	23 - 28
EXHIBIT B AND HANDLING	5		
APC 220	6 - 8		
AN PROPELLANT CONSTITUENTS	9		
APC 260	10 - 15		
MANUFACTURER'S DATA	16 - 18		
APC 103	19, 20		

TOTAL NUMBER OF PAGES 28

001711


TO ENERGY & HERRIN
CARTERVILLE
ROUTE 148 N
T R
PLOT PLAN/MAP
TO CARBONDALE
CRAINVILLE
WILLIAMSON COUNTY AIRPORT
BEST INNS CORPORATE OFFICE
HIGHWAY 13
HIGHWAY 13
TO MARION
SIU
SOURCE SITE
D
B
P
A-5 ROAD
OLD 13
REFUGE FIRE STATION
CRAB ORCHARD LAKE
A-3 ROAD
F A M (3)
6
SCALE: 1 INCH = 1 MILE
WOLF CREEK ROAD
I
7
ROUTE 148 S
13
11
N
001712
PAGE 3 OF 28

PROCESS FLOW DIAGRAM: PROPELLANT MIXING AND HANDLING

NOTE: 4 (FOUR) EMISSION SUBSOURCES: S1, S2, S3, S4
1 (ONE) AIR POLLUTION CONTROL DEVICE (TORIT DUST COLLECTOR)

	AVE.	MAX.
INLET/EXIT GAS CONDITION:	70°F	70°F
INLET/EXIT GAS FLOW RATE:	2200 SCFM	2900 SCFM

FILTER UNIT EFFICIENCY: 99.9+%

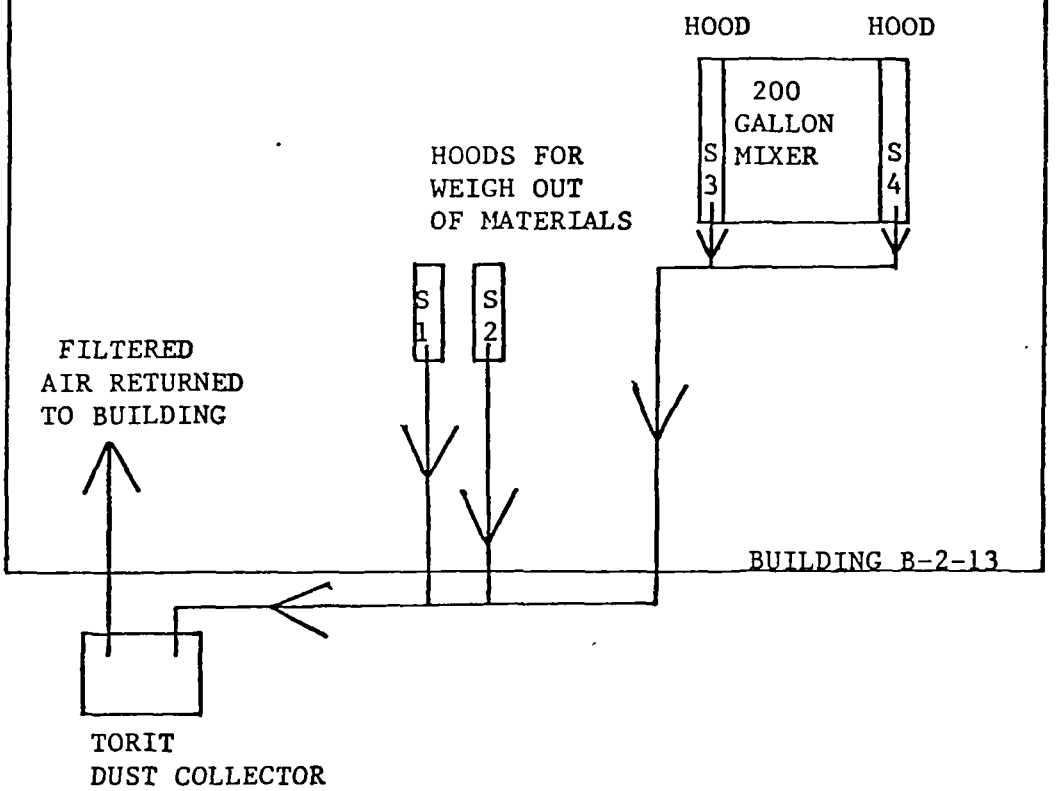


EXHIBIT B

a.) DESCRIPTION OF EQUIPMENT:

Olin maintains a production facility southwest of Marion, Illinois, in a rural area. This facility, Olin designates as the "B" and "D" areas, generally is used for the manufacturing of military gas generator propulsion systems and blending of various explosive mixes for these systems and medium caliber ammunition.

The manufacturing of the gas generators requires the mixing and handling of raw materials to process an ammonium nitrate based explosive propellant. The air emissions from this mixing and handling process would be removed through four different hoods and drawn into air pollution control equipment. The equipment is a Torit dust collector Model 124-7½ H which utilizes high collection efficiency fabric filters. As air is pulled into the collector, most dust and collected materials settle into the hopper base. Smaller contaminants are trapped against the outside surface of the filters which are dislodged by activating the manual filter shaker. Air from the processes would be filtered and then recirculated into the building.

b.) EQUIPMENT STATUS:

The dust collector itself was operated in the past under Application Number 74070118 however, the permit was withdrawn upon Olin's request. The 200 gallon mixer is original processing equipment, however, changes in a new raw material handling station and ducting would be made. In addition, the new permit request involves different process parameters.

c.) ANTICIPATED DATES OF COMMENCEMENT OF CONSTRUCTION AND START UP OF THE EQUIPMENT:

It is anticipated that construction would commence 1 March 1985, or earlier provided a construction permit is granted. Start up would commence 18 March 1985, or earlier provided an operating permit is granted.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

[illegible] Section 1029. Disclosure of this information is required under that section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION PROCESS EMISSION SOURCE NOTE: 4 (FOUR) SUBSOURCES (S1, S2, S3, S4)	TORIT-B-85 (14JAN85) APC 200: CONSTRUCT/OPERATE OLIN CORP., MARION, ILLINOIS

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER: OLIN CORPORATION	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): ORDNANCE PRODUCTS
3. STREET ADDRESS OF EMISSION SOURCE: CRAB ORCHARD WILDLIFE REFUGE	4. CITY OF EMISSION SOURCE: (RURAL) MARION, ILLINOIS

GENERAL INFORMATION

5. NAME OF PROCESS: AN PROPELLANT MIXING & HANDLING	6. NAME OF EMISSION SOURCE EQUIPMENT: 200 GALLON MIXER & WEIGH OUT STATION	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER: BAKER-PERKINS (200 GALLON MIXER)	8. MODEL NUMBER: 17JYWUEM	9. SERIAL NUMBER: 52739

10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE:
PROCESS FLOW DIAGRAM: PROPELLANT MIXING AND HANDLING SEE PAGE 4 OF 28

11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION):
N/A

12. AVERAGE OPERATING TIME OF EMISSION SOURCE: 6 HRS/DAY 5 DAYS/WK 50 WKS/YR	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE: 14 HRS/DAY 7 DAYS/WK 50 WKS/YR

14. PERCENT OF ANNUAL THROUGHPUT:
DEC-FEB 0 % MAR-MAY 33 % JUN-AUG 33 % SEPT-NOV 33 % (1985)

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. AN PROPELLANT	b. 500.15 EST. LB/HR	c. 536.16 EST. LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. AN PROPELLANT	b. 500 EST. LB/HR	c. 536 EST. LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. AN PROPELLANT	b. 0.15 EST. LB/HR	c. 0.16 EST. LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

(ESTIMATES FROM PAST OPERATING EXPERIENCE AND PRESENT PRODUCTION REQUIREMENTS.)

*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b. ———	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

SEE PAGE 9 OF 28 FOR "AN PROPELLANT CONSTITUENTS"

*EMISSION INFORMATION N/A

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED):

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION N/A

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

66. EXIT HEIGHT ABOVE GRADE:	67. EXIT DIAMETER:
68. GREATEST HEIGHT OF NEARBY BUILDINGS: FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: °F	72. EXIT GAS TEMPERATURE: °F
71. GAS FLOW RATE THROUGH EACH EXIT: ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

AN PROPELLANT CONSTITUENTS

CONSTITUENT	RANGE (%)
Ammonium Nitrate	58.55 - 79.5
Polybutediene Acrylic Acid	0 - 14.5
Guanidine Nitrate	0 - 5.25
Ammonium Oxalate	0 - 5.75
Sodium Barbiturate	0.9 - 2.2
Carbon Black	1.9 - 3.1
Acetyl Triethyl Citrate	0 - 12.1
2,4-Dinitrophenoxyethanol	0 - 10.7
Toluene - 2,4-Diamine	0 - 1.0
N-Phenylmorpholine	0 - 1.0
Cellulose Acetate	0 - 11.6
Ammonium ferri-ferro-cyanide (milori blue)	0 - 1.0

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STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111½, Section 1039. Disclosure of this information is required under that section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center

*DATA AND INFORMATION AIR POLLUTION CONTROL EQUIPMENT	TORIT-B-85 (14JAN85) APC 200: CONSTRUCT/OPERATE OLIN CORP., MARION, ILLINOIS

*THIS INFORMATION FORM IS FOR AN INDIVIDUAL UNIT OF AIR POLLUTION CONTROL EQUIPMENT OR AN AIR POLLUTION CONTROL SYSTEM.

1. NAME OF OWNER: OLIN CORPORATION	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) ORDNANCE PRODUCTS
3. STREET ADDRESS OF CONTROL EQUIPMENT: CRAB ORCHARD WILDLIFE REFUGE	4. CITY OF CONTROL EQUIPMENT: (RURAL) MARION, ILLINOIS
5. NAME OF CONTROL EQUIPMENT OR CONTROL SYSTEM: "TORIT-B-85"	TORIT DUST COLLECTOR, CABINET MODEL 124-7½ H

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION.
2. COMPLETE THE APPROPRIATE SECTION FOR THE UNIT OF CONTROL EQUIPMENT, OR THE APPROPRIATE SECTIONS FOR THE CONTROL SYSTEM. BE CERTAIN THAT THE ARRANGEMENT OF VARIOUS UNITS IN A CONTROL SYSTEM IS MADE CLEAR IN THE PROCESS FLOW DIAGRAM.
3. COMPLETE PAGE 6 OF THIS FORM, EMISSION INFORMATION AND EXHAUST POINT INFORMATION.
4. EFFICIENCY VALUES SHOULD BE SUPPORTED WITH A DETAILED EXPLANATION OF THE METHOD OF CALCULATION, THE MANNER OF ESTIMATION, OR THE SOURCE OF INFORMATION. REFERENCE TO THIS FORM ANY RELEVANT INFORMATION OR EXPLANATION INCLUDED IN THIS PERMIT APPLICATION.
5. EFFICIENCY VALUES AND CERTAIN OTHER ITEMS OF INFORMATION ARE TO BE GIVEN FOR AVERAGE AND MAXIMUM OPERATION OF THE SOURCE EQUIPMENT. FOR EXAMPLE, "MAXIMUM EFFICIENCY" IS THE EFFICIENCY OF THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT MAXIMUM OPERATION, AND "AVERAGE FLOW RATE" IS THE FLOW RATE INTO THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT AVERAGE OPERATION.
6. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS", APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
MAXIMUM OPERATION - THE GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

ADSORPTION UNIT N/A	
1. FLOW DIAGRAM DESIGNATION(S) OF ADSORPTION UNIT:	
2. MANUFACTURER:	3. MODEL NAME AND NUMBER:
4. ADSORBENT: ☐ ACTIVATED CHARCOAL: TYPE _____ ☐ OTHER SPECIFY _____	
5. ADSORBATE(S):	
6. NUMBER OF BEDS PER UNIT:	7. WEIGHT OF ADSORBENT PER BED: LB
8. DIMENSIONS OF BED: THICKNESS _____ IN, SURFACE AREA _____ SQUARE IN	
9. INLET GAS TEMPERATURE: °F	10. PRESSURE DROP ACROSS UNIT: INCH H_2O GAUGE
11. TYPE OF REGENERATION: ☐ REPLACEMENT ☐ STEAM ☐ OTHER. SPECIFY _____	
12. METHOD OF REGENERATION: ☐ ALTERNATE USE OF _____ ENTIRE UNITS ☐ ALTERNATE USE OF _____ BEDS IN A SINGLE UNIT ☐ SOURCE SHUT DOWN ☐ OTHER· DESCRIBE	
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
13. TIME ON LINE BEFORE REGENERATION: MIN/BED	15. TIME ON LINE BEFORE REGENERATION: MIN/BED
14. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4): %	16. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4): %

AFTERBURNER N/A	
1. FLOW DIAGRAM DESIGNATION(S) OF AFTERBURNER:	
2. MANUFACTURER:	3. MODEL NAME AND NUMBER:
4. COMBUSTION CHAMBER DIMENSIONS: LENGTH _____ IN, CROSS-SECTIONAL AREA _____ SQUARE IN.	
5. INLET GAS TEMPERATURE: °F	7. FUEL: ☐ GAS ☐ OIL· SULFUR _____ WT%
6. OPERATING TEMPERATURE OF COMBUSTION CHAMBER: °F	8. BURNERS PER AFTERBURNER: @ BTU/HR EACH
9. CATALYST USED: ☐ NO ☐ YES: DESCRIBE CATALYST _____	
10. HEAT EXCHANGER USED: ☐ NO ☐ YES: DESCRIBE HEAT EXCHANGER _____	
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
11. GAS FLOW RATE: SCFM	13. GAS FLOW RATE: SCFM
12. EFFICIENCY OF AFTERBURNER(SEE INSTRUCTION 4): %	14. EFFICIENCY OF AFTERBURNER(SEE INSTRUCTION 4) %

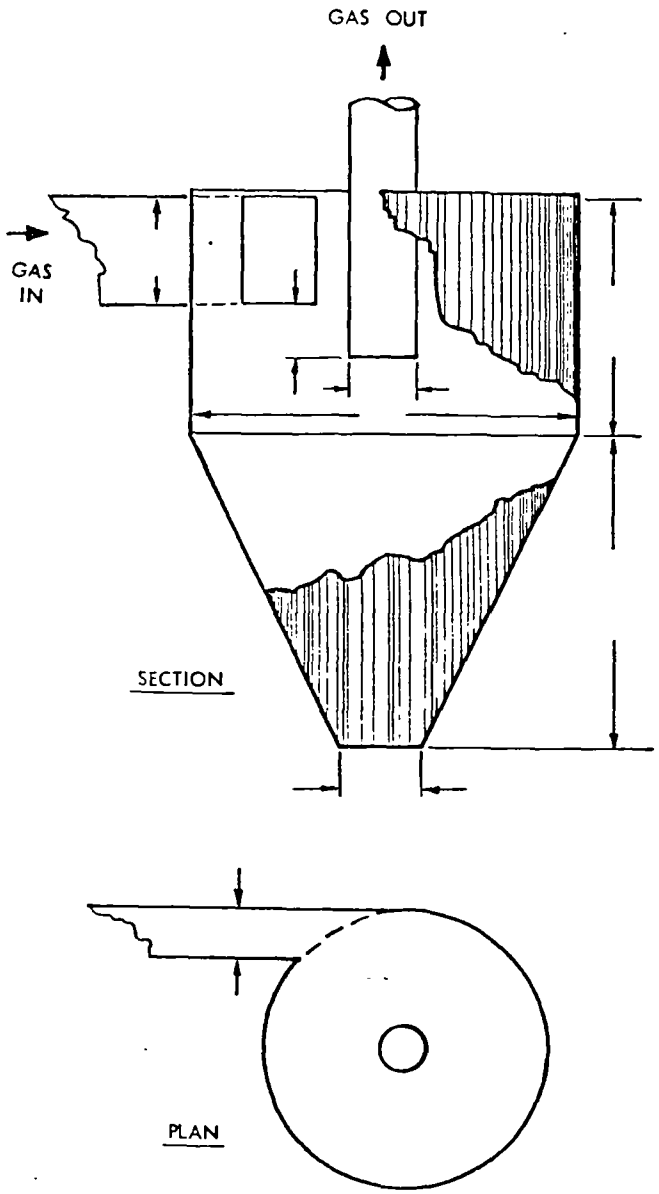
CYCLONE N/A

1. FLOW DIAGRAM DESIGNATION(S) OF CYCLONE:

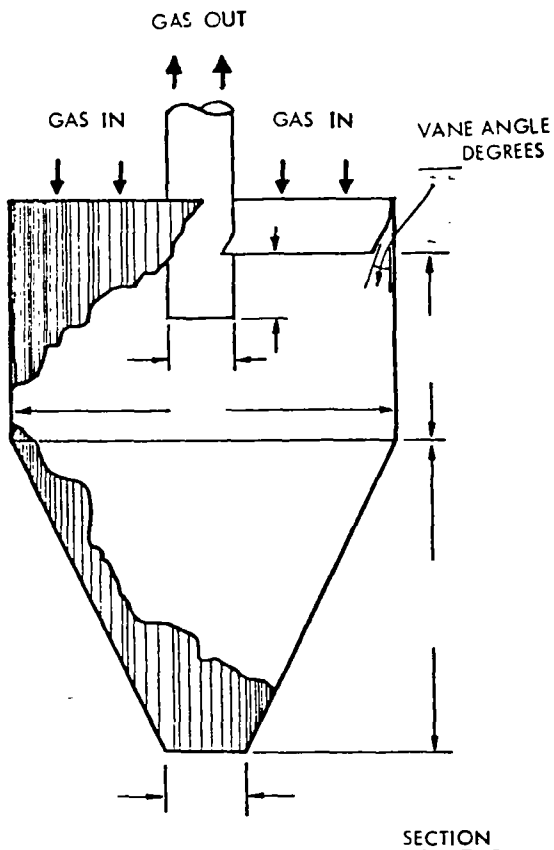
2. MANUFACTURER:	3. MODEL:
4. TYPE OF CYCLONE: ☐ SIMPLE ☐ MULTIPLE	5. NUMBER OF CYCLONES IN EACH MULTIPLE CYCLONE:

6. DIMENSION THE APPROPRIATE SKETCH (IN INCHES) OR PROVIDE A DRAWING WITH EQUIVALENT INFORMATION:

TANGENTIAL INLET CYCLONE



AXIAL INLET CYCLONE
(INDIVIDUAL CYCLONE OF MULTIPLE CYCLONE)



NOT TO SCALE

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
7. GAS FLOW RATE: SCFM	9. GAS FLOW RATE: SCFM
8. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): %	10. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): %

CONDENSER N/A

1. FLOW DIAGRAM DESIGNATION(S) OF CONDENSER

2. MANUFACTURER:	3. MODEL NAME AND NUMBER:	4. HEAT EXCHANGE AREA: FT^2

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
5. COOLANT FLOW RATE PER CONDENSER: WATER _____ GPM AIR _____ SCFM; OTHER: TYPE _____, FLOW RATE _____	10. COOLANT FLOW RATE PER CONDENSER: WATER _____ GPM AIR _____ SCFM; OTHER: TYPE _____, FLOW RATE _____
6. GAS FLOW RATE: SCFM	11. GAS FLOW RATE: SCFM
7. COOLANT TEMPERATURE: INLET ___ °F OUTLET ___ °F	8. GAS TEMPERATURE: INLET ___ °F OUTLET ___ °F
12. COOLANT TEMPERATURE: INLET ___ °F OUTLET ___ °F	13. GAS TEMPERATURE: INLET ___ °F OUTLET ___ °F
9. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4): %	14. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4): %

*ELECTRICAL PRECIPITATOR N/A

1. FLOW DIAGRAM DESIGNATION OF ELECTRICAL PRECIPITATOR:

2. MANUFACTURER:	3. MODEL NAME AND NUMBER:

4. COLLECTING ELECTRODE AREA PER CONTROL DEVICE: FT^2

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
5. GAS FLOW RATE: SCFM	7. GAS FLOW RATE: SCFM
6. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4): %	8. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4): %

SUBMIT THE MANUFACTURER'S SPECIFICATIONS FOR THE ELECTRICAL PRECIPITATOR. REFERENCE THE INFORMATION TO THIS FORM.

*ELECTRICAL PRECIPITATORS VARY GREATLY IN THEIR DESIGN AND IN THEIR COMPLEXITY. THE ITEMS IN THIS SECTION PROVIDE A MINIMUM AMOUNT OF INFORMATION. THE APPLICANT MUST, HOWEVER, SUBMIT WITH THIS APPLICATION THE MANUFACTURER'S SPECIFICATIONS, INCLUDING ANY DRAWINGS, TECHNICAL DOCUMENTS, ETC. IF THE INFORMATION PROVIDED BY THE MANUFACTURER'S SPECIFICATIONS IS INSUFFICIENT FOR FULL AND ACCURATE ANALYSIS, THE AGENCY WILL REQUEST SPECIFIC ADDITIONAL INFORMATION.

FILTER UNIT

1. FLOW DIAGRAM DESIGNATION(S) OF FILTER UNIT:
PROCESS FLOW DIAGRAM: TORIT DUST COLLECTOR SEE PAGE 4 OF 28

2. MANUFACTURER: TORIT DIVISION, DONALDSON COMPANY, INC.	3. MODEL NAME AND NUMBER: TORIT MODEL 124-7½ H
4. FILTERING MATERIAL: 40 FILTERS 30" x 24" EACH, FABRIC	5. FILTERING AREA: 400 SQUARE FEET

6. CLEANING METHOD:
[X] SHAKER [ ] REVERSE AIR [ ] PULSE AIR [ ] PULSE JET [ ] OTHER: SPECIFY _____

7. GAS COOLING METHOD: [ ] DUCTWORK: LENGTH _____ FT., DIAM _____ IN. N/A
[ ] BLEED-IN AIR [ ] WATER SPRAY [ ] OTHER: SPECIFY

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. GAS FLOW RATE (FROM SOURCE): EST. 2200 SCFM	12. GAS FLOW RATE (FROM SOURCE): EST. 2900 SCFM
9. GAS COOLING FLOW RATE: N/A BLEED-IN AIR _____ SCFM, WATER SPRAY _____ GPM	13. GAS COOLING FLOW RATE: N/A BLEED-IN AIR _____ SCFM, WATER SPRAY _____ GPM
10. INLET GAS CONDITION: EST. TEMPERATURE 70 °F DEWPOINT 52 °F	14. INLET GAS CONDITION: EST. TEMPERATURE 70 °F DEWPOINT 59 °F
11. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): 99.9+ %	15. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): 99.9+ %

SCRUBBER N/A

1. FLOW DIAGRAM DESIGNATION(S) OF SCRUBBER

2. MANUFACTURER:

3. MODEL NAME AND NUMBER:

4. TYPE OF SCRUBBER:

☐ HIGH ENERGY: GAS STREAM PRESSURE DROP _____ INCH H_2O

☐ PACKED: PACKING TYPE _____, PACKING SIZE _____, PACKED HEIGHT _____ IN.

☐ SPRAY: NUMBER OF NOZZLES _____, NOZZLE PRESSURE _____ PSIG

☐ OTHER: SPECIFY _____ ATTACH DESCRIPTION AND SKETCH WITH DIMENSIONS

5. TYPE OF FLOW:

☐ COCURRENT ☐ COUNTERCURRENT ☐ CROSSFLOW

6. SCRUBBER GEOMETRY:

LENGTH IN DIRECTION OF GAS FLOW _____ IN., CROSS-SECTIONAL AREA _____ SQUARE IN.

7. CHEMICAL COMPOSITION OF SCRUBBANT:

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. SCRUBBANT FLOW RATE: GPM	12. SCRUBBANT FLOW RATE: GPM
9. GAS FLOW RATE: SCFM	13. GAS FLOW RATE: SCFM
10. INLET GAS TEMPERATURE: °F	14. INLET GAS TEMPERATURE: °F
11. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____ % PARTICULATE _____ % GASEOUS	15. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____ % PARTICULATE _____ % GASEOUS

OTHER TYPE OF CONTROL EQUIPMENT N/A

1. FLOW DIAGRAM DESIGNATION(S) OF "OTHER TYPE" OF CONTROL EQUIPMENT:

2. GENERIC NAME OF "OTHER" EQUIPMENT:

3. MANUFACTURER:

4. MODEL NAME AND NUMBER:

5. DESCRIPTION AND SKETCH, WITH DIMENSIONS AND FLOW RATES, OF "OTHER" EQUIPMENT:

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
6. FLOW RATES: _____ GPM _____ SCFM	8. FLOW RATES: GPM _____ SCFM
7. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4): %	9. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4): %

EMISSION INFORMATION

1. NUMBER OF IDENTICAL CONTROL UNITS OR CONTROL SYSTEMS (DESCRIBE AS REQUIRED):
ONE (SEE PAGE 4 OF 28)

AVERAGE OPERATION OF SOURCE (TOTAL FOR FOUR SUBSOURCES)

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	2a. 0.000008 GR/SCF	b. 0.00015 LB/HR	c. CALCULATED ESTIMATE BASED ON PAST
CARBON MONOXIDE	3a. NONE PPM (VOL)	b. N/A LB/HR	c. OPERATIONAL EXPERIENCE AND 99.9% N/A COLLECTOR EFFICIENCY
NITROGEN OXIDES	4a. NONE PPM (VOL)	b. N/A LB/HR	c. N/A
ORGANIC MATERIAL	5a. NONE PPM (VOL)	b. N/A LB/HR	c. N/A
SULFUR DIOXIDE	6a. NONE PPM (VOL)	b. N/A LB/HR	c. N/A
OTHER (SPECIFY)	7a. NONE PPM (VOL)	b. N/A LB/HR	c. N/A

MAXIMUM OPERATION OF SOURCE (TOTAL FOR FOUR SUBSOURCES)

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	8a. 0.000009 GR/SCF	b. 0.00016 LB/HR	c. CALCULATED ESTIMATE BASED ON PAST
CARBON MONOXIDE	9a. NONE PPM (VOL)	b. N/A LB/HR	c. OPERATIONAL EXPERIENCE AND 99.9% N/A COLLECTOR EFFICIENCY.
NITROGEN OXIDES	10a. NONE PPM (VOL)	b. N/A LB/HR	c. N/A
ORGANIC MATERIAL	11a. NONE PPM (VOL)	b. N/A LB/HR	c. N/A
SULFUR DIOXIDE	12a. NONE PPM (VOL)	b. N/A LB/HR	c. N/A
OTHER (SPECIFY)	13a. NONE PPM (VOL)	b. N/A LB/HR	c. N/A

**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

EXHAUST POINT INFORMATION

1. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:
PROCESS FLOW DIAGRAM: PROPELLANT MIXING AND HANDLING (SEE PAGE 4 OF 28)

2. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.): FILTERED AIR WILL BE EXHAUSTED AND RECIRCULATED BACK INTO THE OPERATIONAL BUILDING B-2-13

3. EXIT HEIGHT ABOVE GRADE:
13 FEET (RECYCLES BACK INTO BUILDING)

4. EXIT DIAMETER:
6" x 9"

5. GREASTEST HEIGHT OF NEARBY BUILDINGS: EST.
22 FT

6. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY:
400 FT

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
7. EXIT GAS TEMPERATURE: EST. 70 °F	9. EXIT GAS TEMPERATURE: EST. 70 °F
8. GAS FLOW RATE THROUGH EACH EXIT: EST. 2200 ACFM	10. GAS FLOW RATE THROUGH EACH EXIT: EST. 2900 ACFM

DUST COLLECTORS

CABINET MODEL

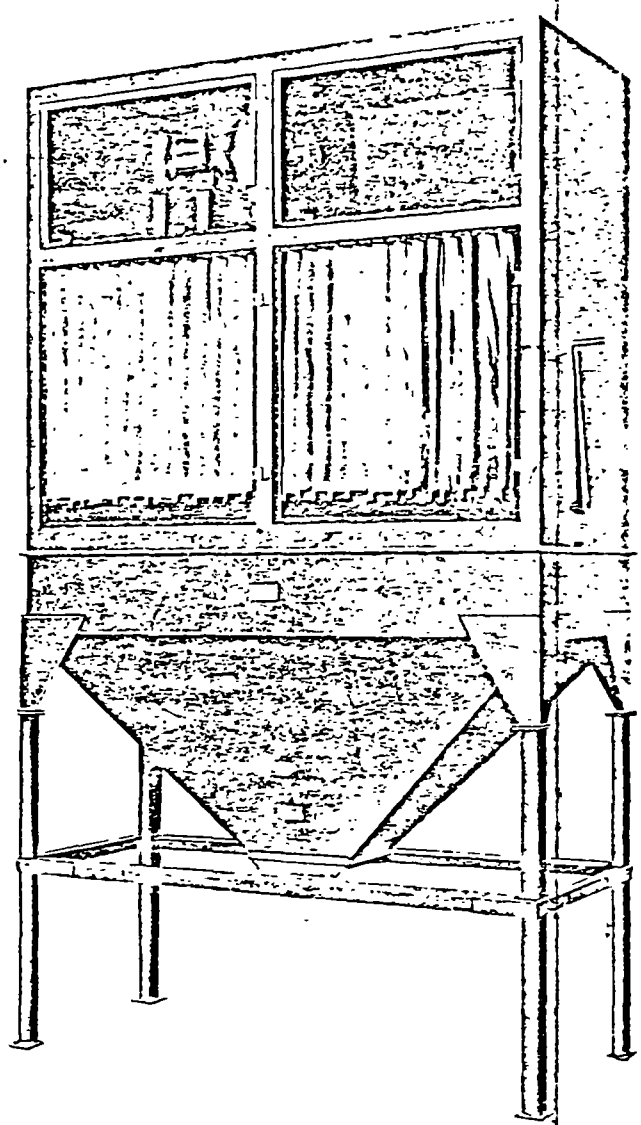
TORIT-B-85-(14JAN85)

APC 2001 CONSTRUCT/OPERATE

OLIN CORP; MARION, ILLINO

HIGHLY EFFICIENT FILTRATION

TORIT's Model 124 cabinet dust collector effectively pulls dust particles from the air, including those smaller than one micron. This is possible because this collector utilizes fabric filters possessing an extremely high collection efficiency. Overall efficiencies are rated at 99.9%+, even with high concentrations of small particles present. Most dust and collected materials settle into the hopper base as air is pulled into the collector. Smaller contaminants are trapped against the outside surface of the fabric filters as air is drawn through and discharged out of the collector. Activating the manual filter shaker dislodges these particles. Where allowed, you can save costly heated or cooled air by being able to recirculate clean air (already at proper room temperature.)



CONSISTENT FAN PERFORMANCE

A constant and reliable performance is delivered by TORIT's fan. You get longer operation at lower cost because TORIT fans are on the clean air side. Grit, dust, chips, lint, shavings, tramp iron and other materials are deposited in the hopper or stopped by the filters before reaching it.

STRONG, DURABLE, COMPACT CONSTRUCTION

TORIT cabinets are solidly constructed of steel. All seams are spot-welded and sealed, and doors are felt-gasketed to ensure an air-tight structure. Model 124 is shipped in two major assemblies and is ready to be installed. When set up, it requires only 64⅛" x 29½" of floor space, while providing a fabric filtering area of 400 square feet.

EASY-EMPTYING DUST HOPPER

Hopper bottom allows tor easy emptying of dust and bulky materials. Standard hopper bottom has a 16-cubic-foot storage capacity and terminates in a heavy-duty 8¼" square slide gate.

001725

DUST COLLECTORS

CABINET MODEL 124

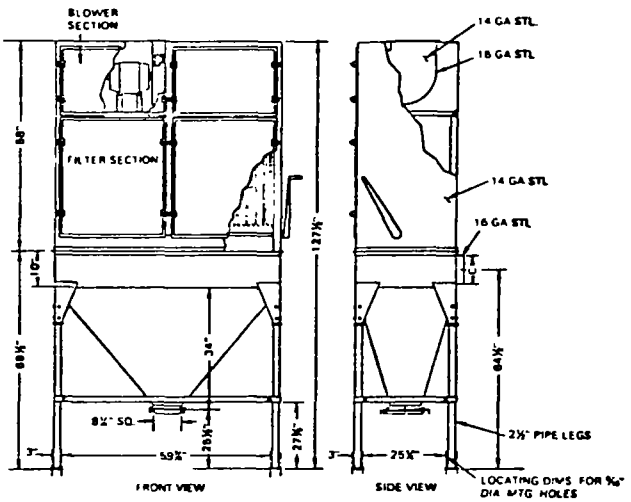
TORIT-B-85 (14JAN85)
APC 200: CONSTRUCT/OPERATE
OLIN CORP., MARION, ILLINO

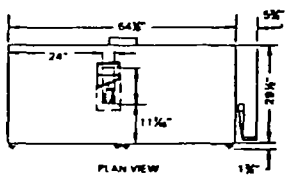
PERFORMANCE TESTED

Performance ratings and A-scale sound level readings are available for all TORIT dust collectors. All ratings are read and verified under standard test conditions in TORIT's laboratories.

MULTIPLE RATING TABLES

MODEL	C.F.M.	INLET VELOCITY (F.P.M.)	EXTERNAL STATIC PRESSURE (W.G.)	PRESSURE DROP CLEAN FILTERS (W.G.)
124 — 5	2200	6000	5 80"	1.40"
	2000	5720	6.80"	1.30"
	1800	5140	7.70"	1.20"
	1600	4570	8.50"	1.10"
	1460	4150	9.10"	80"
124 — 7½	2900	5320	4.00"	1 50"
	2600	4770	5.70"	1.20"
	2450	4500	6.30"	1.10"
	2200	4030	7.10"	.90"
	1900	3490	7.80"	.75"





SPECIFICATIONS

MODEL	124-5	124-5 H	124-7½	124-7½ H
Motor	5 HP, 3600 RPM, 230-460v/60/3	5 HP, 3600 RPM, 230-460v/60/3	7½ HP, 3600 RPM, 230-460v/60/3	7½ HP, 3600 RPM, 230-460v/60/3
Exhaust Outlet	4½" x 10½"	4½" x 10½"	6" x 9"	6" x 9"
Dust Storage Area	4 4 cu. ft.	16 cu. ft.	4 4 cu. ft.	16 cu. ft.
Fabric Filter Area	400 sq. ft.	400 sq. ft.	400 sq. ft.	400 sq. ft.
Height	74"	127½"	74"	127½"
Shipping Weight	1070 lbs.	1365 lbs.	1100 lbs.	1405 lbs.
Optional Equipment	Motor-operated, automatically-timed filter shaker. Special HEPA filter.			
Standard Inlet Location	8" centered on back.	8" centered on back.	10" centered on back or side.	10" centered on back or side.

Specifications subject to change without notice.

TORIT district sales representatives are conveniently located throughout the United States and Canada. One will gladly work with you on your in-plant air pollution problems, and offer complete recommendations at no obligation to you. Check your Yellow Pages, under "Dust Collecting Systems", for local listing, or write.

FORM 124 (8-78) Copyright TORIT

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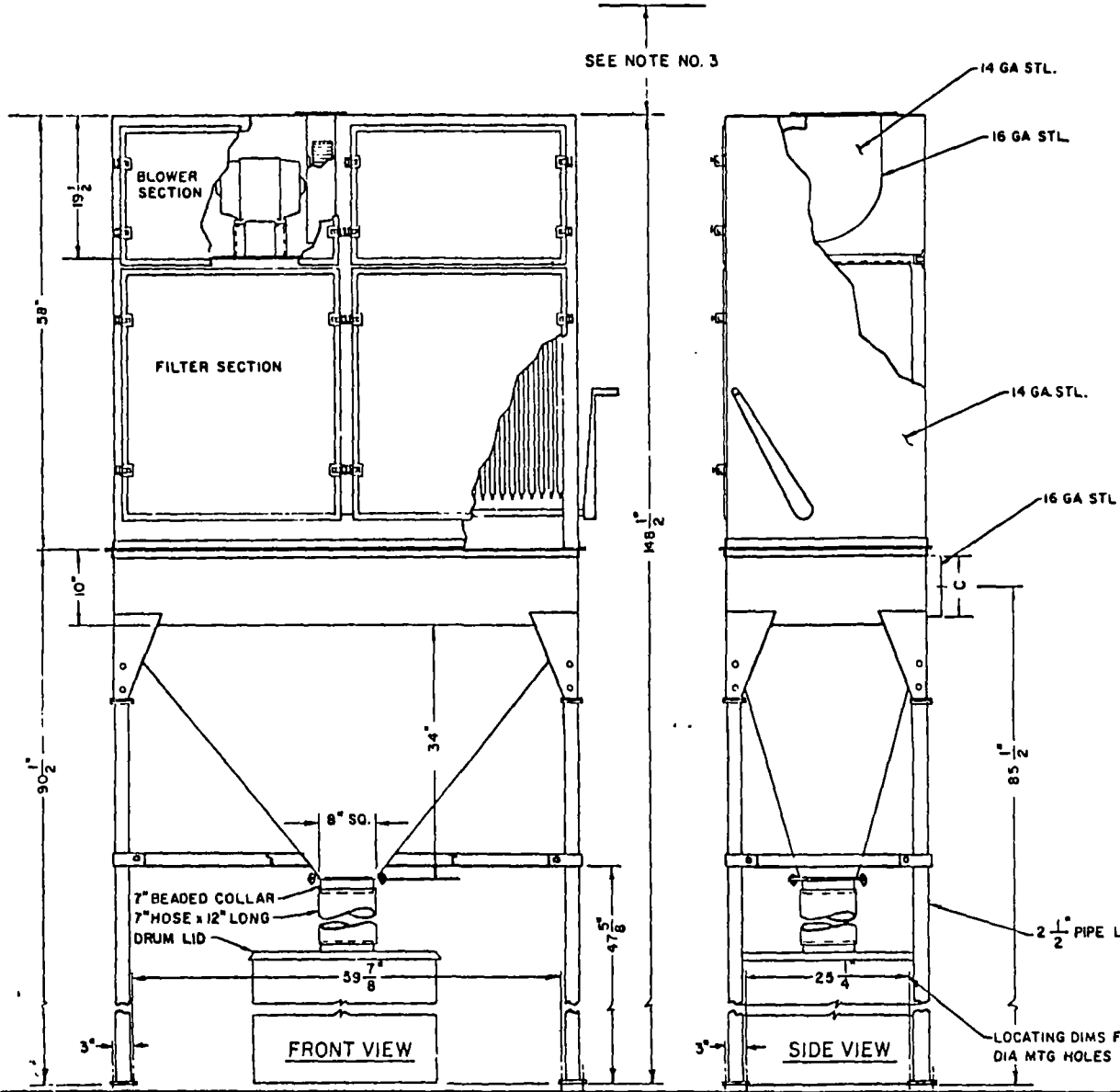


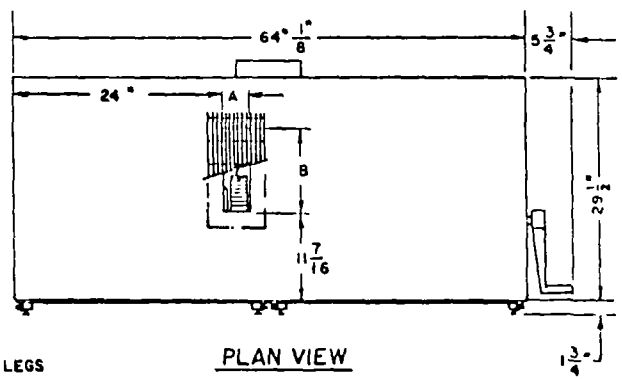
CERTIFICATION

THIS DRAWING IS CERTIFIED TO BE CORRECT.

BY:_____ DATE:_____

ENGINEERING DEPT.

UNIT	A	B	C
124-5H	4½	10¼"	8"
124-7½H	6	9	10"



PLAN VIEW

124-5H · MULTIPLE RATING TABLES · 124-7½H					
C.F.M.	F.P.M.	EXT. S.P.	C.F.M.	F.P.M	EXT. S.P
2200	6000	5.80	2900	5320	4.0
2000	5720	6.80	2600	4770	5.7
1800	5140	7.70	2450	4500	6.7
1600	4570	8.50	2200	4030	7.1
1460	4150	9.10	1900	3490	7.8

SPECIFICATIONS

1. MOTOR SHALL BE 5HP ON NO. 124-5H & 7½HP ON NO 124-7½H, 3600 RPM, 230-460/60/3
2. DRUM CAPACITY SHALL BE 7.5 CU. FT
3. FILTER AREA SHALL BE 400 SQ. FT (40 FILTERS 30" X 24" EACH)
4. INLET LOCATION: CENTERED ON BACK OR SIDE
5. HOPPER CAPACITY SHALL BE 16.0 CU FT
6. NET WT. 1200 1230 SHIPPING WT. 1525 1560

NOTES

1. THIS DRAWING IS FOR A 124-5H & 124-7½H DUST COLLECTOR. ANY DEPARTURE FROM THIS DESIGN SHALL REQUIRE SPECIAL FABRICATION AND AN INCREASE IN COST
2. THIS DRAWING IS NOT CERTIFIED FOR CONSTRUCTION PURPOSES UNLESS PROPERLY SIGNED BY TORIT.
3. ALLOW A MIN. CLEARANCE OF 12" ABOVE FAN OUTLET
4. DRUM NOT FURNISHED BY TORIT.

TORIT DIVISION, DONALDSON COMPANY, INC
P.O. BOX 43217 - ST. PAUL, MINNESOTA 55164

SPECIFICATION CONTROL DRAWING

NO 124-5 & 124-7½-55 DUST COLLECTOR

DRAWN T.M.H

APP'D.

DRWG NO 124-004 REV E 9-77

MANUFACTURER'S DATA
001727 PAGE 18 OF 28

ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

DISPOSITION OF WASTE MATERIALS(A)

NAME OF EQUIPMENT OR PROCESS TO BE CONSTRUCTED OR OPERATED (B) PROPELLANT MIXING AND HANDLING

FOR AGENCY USE ONLY

REFERENCE I.D. NO. _____

REFERENCE PERMIT NO. _____

DATE _____

1a. NAME OF OWNER:		2a. NAME OF OPERATOR:	
OLIN CORPORATION		OLIN CORPORATION	
1b. STREET ADDRESS OF OWNER:		2b. STREET ADDRESS OF OPERATOR:	
P.O. DRAWER G		P.O. DRAWER G	
1c. CITY OF OWNER:		2c. CITY OF OPERATOR:	
MARION		MARION	
1d. STATE OF OWNER:	1e. ZIP CODE:	2d. STATE OF OPERATOR:	2e. ZIP CODE:
ILLINOIS	62959	ILLINOIS	62959

3a. NAME OF CORPORATE DIVISION OR PLANT:		3b. STREET ADDRESS OF EMISSION SOURCE:		
ORDNANCE PRODUCTS		CRAB ORCHARD WILDLIFE REFUGE		
3c. CITY OF EMISSION SOURCE:	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	3e. TOWNSHIP:	3f. COUNTY:	3g. ZIP CODE:
RURAL MARION		N/A	WILLIAMSON	62959

4. ALL CORRESPONDENCE TO: (NAME OF INDIVIDUAL)	5. TELEPHONE NUMBER FOR AGENCY TO CALL:
ARTHUR HEINZ, JR., DIRECTOR	(618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) ☒ OWNER ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR ID NUMBER FOR THIS APPLICATION.(C) TORIT-B-85

(A) THIS FORM IS TO BE COMPLETED FOR ANY STATIONARY EMISSION SOURCE THAT WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL THAT MAY BE DISPOSED OF IN A MANNER THAT MAY CAUSE OR TEND TO CAUSE POLLUTION IN ILLINOIS EITHER ALONE OR IN COMBINATION WITH MATTER FROM OTHER SOURCES OR SO AS TO VIOLATE REGULATIONS OR STANDARDS ADOPTED BY THE POLLUTION CONTROL BOARD UNDER THE ENVIRONMENTAL PROTECTION ACT.

(B) ENTER INFORMATION HERE FROM COMPARABLE BLOCK ON APC-200 - "APPLICATION FOR A PERMIT".

(C) ENTER INFORMATION IN ITEM 7 ABOVE SAME AS ITEM 7 APC-200 - "APPLICATION FOR A PERMIT".

(D) IF ADDITIONAL SPACE IS REQUIRED USE ADDITIONAL SHEETS, ATTACH AND IDENTIFY INFORMATION BY APPROPRIATE BLOCK NUMBER AS IT APPEARS ON THIS FORM.

THIS ADDENDUM WILL BE REVIEWED BY THE DIVISION OF LAND POLLUTION CONTROL AND THE OWNER WILL BE NOTIFIED WHETHER OR NOT A DETAILED APPLICATION FOR A PERMIT WILL NEED TO BE SUBMITTED. THIS FORM APC-103 - "DISPOSITION OF SOLID WASTE") IN ITSELF SHALL NOT BE CONSIDERED TO BE AN APPLICATION FOR A PERMIT. PROPER APPLICATION FOR PERMIT FORMS WILL BE MAILED TO YOU BY THE DIVISION OF LAND POLLUTION CONTROL, IF IT IS DEEMED THAT THE FACILITY REQUIRES A PERMIT.

8. BRIEFLY DESCRIBE THE PROCESS WHICH WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL:

THE TORIT DUST COLLECTOR WILL COLLECT THOSE CONSTITUENTS FROM PROCESSING AN PROPELLANT. CONSTITUENTS WILL BE ACCUMULATED AS A RESULT OF THE ACTUAL MIXING AND PREPARATION OF MATERIALS IN A 55 GALLON DRUM ASSOCIATED WITH THE DUST COLLECTION SYSTEM.

POWDER

). FOR THE WASTE STATE THE CHEMICAL COMPOSITION, EXPRESSED AS WEIGHT PERCENTAGES OF SOLID WASTE OR IN MILLIGRAMS PER LITER FOR LIQUIDS

SEE PAGE 9 OF 28 . "AN PROPELLANT CONSTITUENTS"

(GAL.) (LB.)

la. STATE VOLUME & WEIGHT OF THE WASTE GENERATED BY THIS OPERATION:
EST DAILY (0.2) /DAY (0.9) WEEKLY (0.9) /WK (4.5) MONTHLY (3.6) /MO. (18) YEARLY (45) /YR (225) OTHER _____ EXPLAIN

b. WILL THE WASTE MATERIAL BE DEPOSITED IN A SANITARY LANDFILL PERMITTED BY THE ENVIRONMENTAL PROTECTION AGENCY?

☐ YES ☒ NO · AN PROPELLANT IS AN "EXPLOSIVE" WASTE

c. IF THE ANSWER TO 1a IS "YES", STATE THE NAME AND AGENCY SUPPLEMENTAL PERMIT NUMBER OF SUCH SITE.

NAME _____ SUPPLEMENTAL PERMIT NO. _____

12a. WILL THE WASTE MATERIAL BE STORED OR PROCESS AT THE APPLICANT PLANT OR PREMISES? ☒ YES ☐ NO

12b. IF THE ANSWER TO 12a IS "YES", EXPLAIN.

THE EXPLOSIVE WASTE MATERIAL WILL BE "ACCUMULATED FOR LESS THAN 90 DAYS" AT THE GENERATING LOCATION. THE WASTE WILL THEN BE TRANSFERRED DIRECTLY TO THE "THERMAL TREATMENT" FACILITY FOR "WASTE TREATMENT" OR TRANSFERRED TO THE INTERIM STATUS "STORAGE" FACILITY. ("TERMS" AS DEFINED BY WASTE REGULATIONS)

13a. WILL THE WASTE MATERIAL BE TRANSPORTED TO A REMOTE SITE FOR STORAGE, PROCESSING, OR DISPOSAL? ☒ YES ☐ NO

13b. IF THE ANSWER TO 13a IS "YES", EXPLAIN.

IF THE WASTE CANNOT BE TREATED IMMEDIATELY AT THE "THERMAL TREATMENT" FACILITY, IT MAY HAVE TO BE TRANSFERRED TO THE INTERIM STATUS "STORAGE" FACILITY UNTIL WHICH TIME IT CAN BE TRANSFERRED AND TREATED AT THE "THERMAL TREATMENT" FACILITY.

14a. WILL THE WASTE MATERIAL BE INCINERATED? ☒ YES ☐ NO

14b. IF THE ANSWER TO 14a IS "YES", EXPLAIN.

THE WASTE MATERIAL WILL BE "INCINERATED" AS DEFINED BY THE AIR POLLUTION CONTROL REGULATIONS OR "TREATED BY THERMAL TREATMENT" AS DEFINED BY THE LAND POLLUTION CONTROL REGULATIONS.

15. IF THE WASTE WILL BE DISPOSED OR UTILIZED IN A MANNER NOT OTHERWISE DESCRIBED, STATE THE METHOD OF UTILIZATION OR DISPOSAL TO BE USED AND THE OWNER AND LOCATION OF THE DISPOSAL OR PROCESSING FACILITY AND EXPLAIN.

N/A

CERTIFICATE OF LOCAL ZONING APPROVAL

This is to certify that the construction of a dust collector by the Olin Corporation located in Township 9S, Range 1 E, Section 24, 3rd P.M., Williamson County, Illinois, does not violate any Williamson County siting/zoning regulations. This also certifies that the Williamson County Board of Commissioners has local siting/zoning jurisdiction over the proposed facility and that the undersigned have authority to certify on behalf of the Williamson County Board of Commissioners.

Clarence Stocks, Chairman
of the Board

Nov. 20-1984
Date

William Mattingly
Williamson County Commissioner

Nov. 20-1984
Date

John Hamilton
Williamson County Commissioner

Nov-20-1984
Date

19.a. Certificate by Applicant(s)

P.A. 82-682 amended Section 39(c) of the Illinois Environmental Protection Act to provide in part:

> "...No permit for the development or construction of a new facility, other than a regional pollution control facility, may be granted by the Agency unless the applicant submits proof to the Agency that the applicant has secured all necessary zoning approvals from the unit of local government having zoning jurisdiction over the proposed facility." (emphasis added)

Accordingly, to demonstrate compliance with the requirements of P.A. 82-682, I hereby certify that:

(a) I/We have secured all necessary zoning approvals from the unit of local government having zoning furisdiction over the proposed facility, or (b) that said facility complies with local zoning requirements and further approval is not required, or (c) no unit of local government has zoning jurisdiction over the proposed facility.

for 1 1/14/15

19.b. NAME OF APPLICANT FOR PERMIT OR AUTHORIZATION TO CONSTRUCT

OLIN CORPORATION, ORDNANCE PRODUCTS

P.O. DRAWER G	MARION	ILLINOIS	62959
STREET	CITY	STATE	ZIP

SIGNATURE Arthur Heinz, Jr.

NAME ARTHUR HEINZ, JR. ORGANIZATION OLIN CORPORATION-ORDNANCE PRODUCTS

TITLE DIRECTOR

001731

Illinois Environmental Protection Agency · P O Box 19276 Springfield IL 62794-9276

217/782-2113

OPERATING PERMIT

PERMITTEE

Olin Corporation/Marion Operations
Attention: Arthur Heinz
P.O. Box 278
Marion, Illinois 62959

Application No.: 77080032 I.D. No.: 199862AAB
Applicant's Designation: Date Received: August 15, 1988
Subject: Propellent/Inhibitor Machining
Date Issued: September 20, 1988 Expiration Date: July 6, 1991
Location: Crab Orchard Wildlife Refuge, Rural Marion

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of three lathes (Cincinnati, Southbend Precision Lathe,Enterprise), one belt sander and a baghouse as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. This permit is issued based upon replacement of one Cincinnati lathe with one Enterprise lathe without any increase in emissions above those previously allowed.

Terry A. Sweitzer, P.E.
Manager, Permit Section
Division of Air Pollution Control

TAS:SRS:ds:5064H/82

cc: Region 3

RECEIVED

SEP 8 1988

001732

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR OPERATING PERMITS

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special permit condition(s).

1. The issuance of this permit does not release the permittee from compliance with state and federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or with applicable local laws, ordinances and regulations.

2. The Agency has issued this permit based upon the information submitted by the permittee in the permit application. Any misinformation, false statement or mispresentation in the application shall be grounds for revocation under 35 Ill. Adm. Code 201.207.

3. a. The permittee shall not authorize, cause, direct or allow any modification, as defined in 35 Ill. Adm. Code 201.102, of equipment, operations or practices which are reflected in the permit application as submitted unless a new application or request for revision of the existing permit is filed with the Agency and unless a new permit or revision of the existing permit(s) is issued for such modification.

   b. This permit only covers emission sources and control equipment while physically present at the indicated plant location(s). Unless the permit specifically provides for equipment relocation, this permit is void for an item of equipment on the day it is removed from the permitted location(s) or if all equipment is removed, notwithstanding the expiration date specified on the permit.

4. The permittee shall allow any duly authorized agent of the Agency, upon the presentation of credentials, at reasonable times:

   a. to enter the permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,

   b. to have access to and to copy any records required to be kept under the terms and conditions of this permit,

   c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,

   d. to obtain and remove samples of any discharge or emission of pollutants, and

   e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring or recording any activity, discharge or emission authorized by this permit

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are located,

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the facilities,

c. does not take into consideration or attest to the structural stability of any unit or part of the project, and

d. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. The facilities covered by this permit shall be operated in such a manner that the disposal of air contaminants collected by the equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

7. The permittee shall maintain all equipment covered under this permit in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

8. The permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment. This record shall be made available to any agent of the Environmental Protection Agency at any time during normal working hours and/or operating hours. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9. No person shall cause or allow continued operation during malfunction, breakdown or startup of any emission source or related air pollution control equipment if such operation would cause a violation of an applicable emission standard or permit limitation. Should a malfunction, breakdown or startup occur which results in emissions in excess of any applicable standard or permit limitation, the permittee shall:

   a. immediately report the incident to the Agency's Regional Field Operations Section Office by telephone, telegraph, or other method as constitutes the fastest available alternative, and shall comply with all reasonable directives of the Agency with respect to the incident;

   b. maintain the following records for a period of no less than two (2) years:

      i. date and duration of malfunction, breakdown or startup,

      ii. full and detailed explanation of the cause,

      iii. contaminants emitted and an estimate of quantity of emissions,

      iv. measures taken to minimize the amount of emissions during the malfunction, breakdown or startup, and

      v. measures taken to reduce future occurrences and frequency of incidents.

10. If the permit application contains a compliance program and project completion schedule, the permittee shall submit a project completion status report within thirty (30) days of any date specified in the compliance program and project completion schedule or at six month intervals, whichever is more frequent.

11. Beginning one year from the date of this permit the permittee shall submit an "Annual Emission Report," form APC-208, as required by 35 Ill. Adm. Code 201.302. (Note: If the permittee has other operating permits for this facility, the "Annual Emission Report" for all such permits may be included in a single annual submission.)

Olin
ORDNANCE

MARION OPERATIONS

9 August 1988

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Attention: Mr. Terry Sweitzer, P.E.
Manager, Permit Section

Reference: Lathe Replacement to Permitted Operation Emission
Subsource S3
Application No.: 77080032
I.D. No.: 199862AAB
Subject: Propellant/Inhibitor Machining

Dear Mr. Sweitzer:

Olin Corporation requests that this correspondence be added to the above referenced file. The emission subsource S3 lathe in this permitted operation is to be replaced with a different lathe. The process remains unchanged. Emissions as reflected in the application also remain unchanged.

Also, please note that the name of the corporate division has been changed from Ordnance Products to Marion Operations and that the address has been changed from P.O. Drawer G to P.O. Box 278.

Enclosed is the original and three copies of Attachment I and revisions of forms APC 220 for "S3" and APC 103.

If further information or clarification is required, please contact Jean Schneiderman.

Very truly yours,

Arthur Heinz, Jr.
Director

cc
JMS:AHJ:jb

Enclosures

ATTACHMENT I

"S3" Lathe Replacement

ITEM	WAS	NOW
Name of Emission Source Equipment	Cincinnati Lathe	Enterprise Lathe
Emission Source Equipment Mfg.	Cincinnati Lathe	HDS Corp.
Model Number	4-1/2R	2215 x 60"
Serial Number	(Olin #10681)	TBD
Average Operating Time Of Emission Source	4 Hrs/Day 1 Day/Wk 50 Wks/Yr	6 Hrs/Day 2 Days/Wk 50 Wks/Yr
Maximum Operating Time Of Emission Source	4 Hrs/Day 3 Days/Wk 50 Wks/Yr	8 Hrs/Day 3 Days/Wk 50 Wks/Yr
Volume and Weight of Waste Generated by this operation (revised total of all 4 sources)	10 Gal/Day 104 Lbs/Day 26 Gal/Wk 256 Lbs/Wk 107 Gal/Mo 1068 Lbs/Mo 1281 Gal/Yr 12,813 Lbs/Yr	12 Gal/Day 118 Lbs/Day 31 Gal/Wk 312 Lbs/Wk 130 Gal/Mo 1301 Lbs/Mo 1561 Gal/Yr 15,613 Lbs/Yr

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1 2 Section 1039 Disclosure of this information is required under that Section Failure to do so may prevent this form from being processed and could result in your application being denied This form has been approved by the Forms Management Center

*DATA AND INFORMATION PROCESS EMISSION SOURCE "S3"	D-1-8E-86A (Revised Aug. 9, 1988) Olin Corp., Marion, IL

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER:	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER):
Olin Corporation	Marion Operations
3. STREET ADDRESS OF EMISSION SOURCE	4. CITY OF EMISSION SOURCE.
Crab Orchard Wildlife Refuge	(Rural) Marion

GENERAL INFORMATION

5. NAME OF PROCESS:	6. NAME OF EMISSION SOURCE EQUIPMENT.	
Propellant/Inhibitor Machining	Enterprise Lathe	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER:	8. MODEL NUMBER:	9. SERIAL NUMBER:
H.D.S. Corporation	2215 x 60"	TBD

10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE:
Process Flow Diagram: Propellant/Inhibitor Machining See Page 5 of 34

11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION) N/A

12. AVERAGE OPERATING TIME OF EMISSION SOURCE·	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE·
6 HRS/DAY 2 DAYS/WK 50 WKS/YR	8 HRS/DAY 3 DAYS/WK 50 WKS/YR

14. PERCENT OF ANNUAL THROUGHPUT.
DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. Oversized Propellant Grain	b. 64.75 LB/HR	c. 92.5 LB/HR
21a. Oversized Inhibited Grain and Test Motors	b. 63 LB/HR	c. 90 LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. Propellant Grain	b. 59.5 LB/HR	c. 85 LB/HR
31a. Inhibited Propellant Grain, Test Propellant Grain and Test Motors	b. 61.25 LB/HR	c. 87.5 LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. Propellant Dust (To Collector)	b. 0.25 LB/HR	c. 0.36 LB/HR
41a. Propellant Shavings/Turnings	b. 5.0 LB/HR	c. 7.14 LB/HR
42a. Inhibitor Dust (To Collector)	b. 0.15 LB/HR	c. 0.21 LB/HR
43a. Inhibitor Shavings/Turnings	b. 1.6 LB/HR	c. 2.29 LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b.	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

*EMISSION INFORMATION N/A

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED)

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR ANY AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION N/A

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

66. EXIT HEIGHT ABOVE GRADE:	67. EXIT DIAMETER:
68. GREATEST HEIGHT OF NEARBY BUILDINGS: FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: °F	72. EXIT GAS TEMPERATURE: °F
71. GAS FLOW RATE THROUGH EACH EXIT: ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

-SE-86A (Revised Aug. 9, 1988)
Olin Corp., Marion, IL

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1/2 Section 1039 Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center

DISPOSITION OF WASTE MATERIALS(A) NAME OF EQUIPMENT OR PROCESS TO BE CONSTRUCTED OR OPERATED (B) Propellant/Inhibitor Machining	FOR AGENCY USE ONLY REFERENCE I.D. NO. _____ REFERENCE PERMIT NO. _____ DATE _____

1a. NAME OF OWNER		2a. NAME OF OPERATOR:	
Olin Corporation		Olin Corporation	
1b. STREET ADDRESS OF OWNER:		2b. STREET ADDRESS OF OPERATOR:	
P.O. Box 278		P.O. Box 278	
1c. CITY OF OWNER:		2c. CITY OF OPERATOR	
Marion		Marion	
1d. STATE OF OWNER	1e. ZIP CODE:	2d. STATE OF OPERATOR:	2e. ZIP CODE:
Illinois	62959	Illinois	62959

3a. NAME OF CORPORATE DIVISION OR PLANT:			3b. STREET ADDRESS OF EMISSION SOURCE.		
Marion Operations			Crab Orchard Wildlife Refuge		
3c. CITY OF EMISSION SOURCE	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO		3e. TOWNSHIP:	3f. COUNTY:	3g. ZIP CODE:
Rural Marion			N/A	Williamson	62959

4. ALL CORRESPONDENCE TO (NAME OF INDIVIDUAL)	5. TELEPHONE NUMBER FOR AGENCY TO CALL
Arthur Heinz, Jr., Director	(618)985-8211
6. ADDRESS FOR CORRESPONDENCE (CHECK ONLY ONE) ☒ OWNER ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR ID NUMBER FOR THIS APPLICATION (C) D-1-8E-86A

(A) THIS FORM IS TO BE COMPLETED FOR ANY STATIONARY EMISSION SOURCE THAT WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL THAT MAY BE DISPOSED OF IN A MANNER THAT MAY CAUSE OR TEND TO CAUSE POLLUTION IN ILLINOIS EITHER ALONE OR IN COMBINATION WITH MATTER FROM OTHER SOURCES OR SO AS TO VIOLATE REGULATIONS OR STANDARDS ADOPTED BY THE POLLUTION CONTROL BOARD UNDER THE ENVIRONMENTAL PROTECTION ACT.

(B) ENTER INFORMATION HERE FROM COMPARABLE BLOCK ON APC-200 - "APPLICATION FOR A PERMIT".

(C) ENTER INFORMATION IN ITEM 7 ABOVE SAME AS ITEM 7 APC-200 - "APPLICATION FOR A PERMIT".

(D) IF ADDITIONAL SPACE IS REQUIRED USE ADDITIONAL SHEETS, ATTACH AND IDENTIFY INFORMATION BY APPROPRIATE BLOCK NUMBER AS IT APPEARS ON THIS FORM.

THIS ADDENDUM WILL BE REVIEWED BY THE DIVISION OF LAND POLLUTION CONTROL AND THE OWNER WILL BE NOTIFIED WHETHER OR NOT A DETAILED APPLICATION FOR A PERMIT WILL NEED TO BE SUBMITTED. THIS FORM APC-103 - "DISPOSITION OF SOLID WASTE") IN ITSELF SHALL NOT BE CONSIDERED TO BE AN APPLICATION FOR A PERMIT. PROPER APPLICATION FOR PERMIT FORMS WILL BE MAILED TO YOU BY THE DIVISION OF LAND POLLUTION CONTROL, IF IT IS DEEMED THAT THE FACILITY REQUIRES A PERMIT.

8. BRIEFLY DESCRIBE THE PROCESS WHICH WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL:

The operation consists of using lathes and/or a sander on gas generator components to meet specification configuration. A hood will be over each operation to collect dust into an Aget dust collector. The waste material will be accumulated in the 55 gallon drum which is an integral part of t' dust collector system. Waste consisting of turnings and shavings will be accumu. ntainers.

[illegible] WASTE [illegible] CAKE, FINE ASH CINDERS, ETC. [illegible] SLUDGE, LIQUID, ETC. [illegible] APPLICANT'S DISPOSAL SITE

Powder

10. FOR THE WASTE STATE THE CHEMICAL COMPOSITION, EXPRESSED AS WEIGHT PERCENTAGES OF SOLID WASTE OR IN MILLIGRAMS PER LITER FOR LIQUIDS:

See Page 19 of 34 "Material Constituents"

10a. STATE VOLUME & WEIGHT OF THE WASTE GENERATED BY THIS OPERATION (Gal/Lb.)
DAILY 12 /DAY WEEKLY 31 /WK MONTHLY 130 /MO. YEARLY 1561 /YR OTHER _____ EXPLAIN
118 312 1301 15613

11a. WILL THE WASTE MATERIAL BE DEPOSITED IN A SANITARY LANDFILL PERMITTED BY THE ENVIRONMENTAL PROTECTION AGENCY?

☐ YES ☒ NO

11b. IF THE ANSWER TO 1a IS "YES", STATE THE NAME AND AGENCY SUPPLEMENTAL PERMIT NUMBER OF SUCH SITE.

NAME _____ SUPPLEMENTAL PERMIT NO. _____

12a. WILL THE WASTE MATERIAL BE STORED OR PROCESS AT THE APPLICANT PLANT OR PREMISES? ☒ YES ☐ NO

12b. IF THE ANSWER TO 12a IS "YES", EXPLAIN.

The explosive waste material will be "accumulated for less than 90 days" at the generating location. The waste will then be transferred directly to the "thermal treatment" facility for "waste treatment" or transferred to the interim status waste "storage" facility. ("Terms" as defined by waste regulations.)

13a. WILL THE WASTE MATERIAL BE TRANSPORTED TO A REMOTE SITE FOR STORAGE, PROCESSING, OR DISPOSAL? ☒ YES ☐ NO

13b. IF THE ANSWER TO 13a IS "YES", EXPLAIN.

If the waste cannot be treated immediately at the "thermal treatment" facility, it may have to be transferred to the interim status "storage" facility until which time it can be transferred and treated at the "thermal treatment" facility.

14a. WILL THE WASTE MATERIAL BE INCINERATED? ☒ YES ☐ NO

14b. IF THE ANSWER TO 14a IS "YES", EXPLAIN.

The waste material is burned in a thermal treatment operation as defined by the land pollution control regulations and also controlled by the air pollution control regulations for incineration.

15a. IF THE WASTE WILL BE DISPOSED OR UTILIZED IN A MANNER NOT OTHERWISE DESCRIBED, STATE THE METHOD OF UTILIZATION OR DISPOSAL TO BE USED AND THE OWNER AND LOCATION OF THE DISPOSAL OR PROCESSING FACILITY AND EXPLAIN.

N/A

CRAB ORCHARD WILDLIFE REFUGE

REMEDIAL INVESTIGATION/FEASIBILITY STUDY

A site by site review of items covered in the O'Brien & Gere Final Scope of Work - June 1985 follows:

SITE 3 AREA 11 SOUTH LANDFILL

This is technically Area 12 according to our maps.

This area along with Area 11 North was occupied by Olin from about 1956 to the mid 1960s. Olin's use of Site 3 was as a burning grounds with a reported 4 million pounds of explosives burned in this time frame. This area was transferred to U.S. Powder from Olin.

The reference to DOD refers to an ongoing relation with the Corp of Engineers who have been in the area since abandonment, and have "blown" sumps, drains, and residual explosives.

The area sampled corresponds to U.S. Powder burning grounds on an old map. An earlier Ordill map does show railway tracks in this area.

003077

SITE 5 AREA 11 ACID POND

This acid pond was used to neutralize weak nitric and sulfuric acid from nitration operations. Lime was used for neutralization.

SITE 7A D AREA NORTH LAWN

This site which is west of D Area gate is pre-Olin and could date back to Ordill operations in WW II. The magnetometer showed no buried metal per O'Brien & Gere. Organic vapor (OVA) and chemical analysis information are not yet available to us.

SITE 11A P AREA NORTH

This area is outside of the Olin fence and is assumed to pre-date Olin.

SITE 12 AREA 14 LANDFILL

There is no indication that Olin ever occupied this area. It was designated as bomb load line III in WW II. Indications are that CTI did have operations here in the 1960's and Diagraph-Bradley has been in the area at least that long.

SITE 13 AREA 14 CHANGE HOUSE SITE

See Site 12

SITE 14 AREA 14 SOLVENT STORAGE

This is strictly Diagraph-Bradley.

003279

SITE 15 and 16 AREA 7 PLATING POND
AREA 7 INDUSTRIAL SITE

The reference to Olin and plating operations south of this area may be in error. Olin did not plate in this area. Wilkie Machine Company did do plating in a building Olin formerly occupied and Wilkie is probably responsible. Olin had a metal processing operation here in the early 1970's and did phosphate treat metal parts in this area.

SITE 17 JOB CORPS LANDFILL

There is no indication of any Olin involvement with this landfill.

SITE 18 AREA 13 LOADING PLATFORM

There is no indication Olin was involved in this part of Area 13. Olin does lease igloos for explosive storage in Area 13.

SITE 19 AREA 13 BUNKER 13-1-3

Olin does not currently lease igloo (bunker) 13-1-3. Olin did at one time lease 13-2-1, 13-2-3 and 13-3-3 immediately west of 13-1-3 which are about 500 feet away.

SITE 20 D AREA SOUTH

The building referred to is evidently F-2-2. This was last used as a manufacturing building in the early 1970's. It has since been used as a warehouse.

The area sampled is a main drainage ditch which handles water from several acres in the B and F Areas. A physical survey from the Olin side of the fence did not locate the 4" dripping pipe referred to.

SITE 21 SOUTHEAST CORNER FIELD

No Olin involvement.

SITE 22 OLD REFUGE SHOP

The background description is in error. The road is not "Wolf Creek Road" but is Highway 148 (Sneed Highway).

Olin was never in this area and was not involved in any wood treating operations.

SITE 23

No entry.

SITE 24 PEPSI-WEST

No Olin involvement.

SITE 25 CRAB ORCHARD CREEK AT MARION LANDFILL

It is not believed that Olin ever used this particular landfill.

SITE 26 and 27 CRAB ORCHARD CREEK AT MARION AND INTERSTATE I-57

Olin has no involvement in these areas.

SITE 28 WATER TOWER LANDFILL

Olin records show we did use this landfill at one time (1967-1971) for burning explosives. The quantity involved was 100,000 pounds. All were classified as nonhazardous wastes.

Olin
120 LONG RIDGE RD. STAMFORD, CONN 06904

R ALTEKRUSE

June 9, 1981

REGISTERED MAIL
RETURN RECEIPT REQUESTED

US EPA Region 5
Sites Notification
Chicago, IL 60604

Gentlemen:

In compliance with the provisions of Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Olin Corporation submits EPA Form 8900-1 for facilities in your Region. A list of said facilities is attached hereto. The name of the Olin individual to be contacted regarding information submitted is identified on each form.

Very truly yours,

C. L. Knowles, Jr.
Director, Environmental
and Energy Affairs

CLK/vcs
Enclosures

bcc: R. D. Bradford
L. C. Brown
D. E. Campbell
A. M. Carnam
J. L. Chiolero
E. R. Cloninger
P. Cole
C. N. Bruner
B. F. Davidoff
F. Eakin
B. E. Foster
R. J. Gussman
R. W. Habel
J. R. Mattei
L. W. Maxson
N. C. Gladding
W. C. McGlasson
R. C. Menken
G. C. Mott
V. M. Norwood
J. E. Redden
S. N. Roth
G. T. Wise

003286

RECEIVED
JUN 22 1981
J. E. REDDEN

OLIN CORPORATION

INTER OFFICE MEMO Olin

TO J.E. Redden AT DATE May 21, 1984

FROM G.T. Wisely AT COPY TO S. Spiller

SUBJECT Ordill Hazardous Waste Site Investigation

As I understand, the first article about the old Sangamo Electric dump site containing PCBs appeared in the Southern Illinoisan on April 29, 1984 and such articles have continued to be published since that date. It seems to be understood that Olin didn't take any waste to the Sangamo site.

Because of the attention being given to the Sangamo site and the pressure being applied to the Wildlife Management, Wayne Adams, Refuge Manager, has indicated to us that the Corp of Engineers will be brought in to investigate other sites on the refuge in the near future.

As you are aware, Olin submitted Superfund Notification of Hazardous Site reports to the USEPA in June of 1981:

Location	Date of Olin Use
Ordill Area 12	1956 - 1964
D Area	1965 - 1966
I Area	1967
Ogden Road	1968 - 1969

Two other sites were also included on the Eckhardt Survey in 1979. Olin took non-hazardous plant trash which may have contained trace amounts of asbestos from gas generator manufacturing to these two sites:

Ordill Fire Station	1956 - 1966
Water Tower	1967 - 1971

The above six sites were investigated and discussed in detail in the Review of Waste Disposal Sites report submitted in December 1981 to corporate to satisfy Dr. Irani's request. As part of that investigation, it was decided to analyze soil samples from the D area and the Energy test site burning locations to evaluate levels of environmental concern. The metals extraction analysis showed metal concentrations well below regulatory limits.

A Review of Winchester Group's Hazardous Waste Activities report was prepared for H.E. Blaine in November 1983 and included these sites. From the information we have available and the history of the activities of Olin which would have generated waste that went to the burning sites, it was felt that the sites have been investigated adequately and no further action is necessary at the present time.

003288

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD. ONE YEAR _____ OTHER _____

OC-10000 REV. 1/81

Presently, a potential exposure that has been identified to Olin from the PCB site is furnishing drinking water to our employees from treated water from the Crab Orchard lake. I contacted the Illinois EPA, Marion office, and was told that the treated water has been analyzed quarterly for PCBs since July 1983. No PCBs have been found. The detection limit for PCBs is 10 parts per trillion.

If addition information is needed, please contact me.

G. T. Wisely

G.T. Wisely

/tec

EPA Notification of Hazardous Waste Site

United States
Environmental Protection
Agency
Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

R II #341 810609

ILS-000-001-316

A Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name: Olin Corporation
Street: 120 Long Ridge Road
City: Stamford State: CT Zip Code: 06904

B Site Location:

Enter the common name (if known) and actual location of the site.

Name of Site: Technical Systems Operations
Street: P.O. Drawer G
City: Marion County: Williamson State: IL Zip Code: 62959

C Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title): Wisely, G. Thomas
Phone: Winchester Environmental Manager
(203) 789-6634

D Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year): 1956 To (Year): 1964

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☒ Organics
2. ☒ Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

Source of Waste:
Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☒ Other (Specify)
EXPLOSIVES MFG. (Dynamite & Propellants)

Option 2. This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261)

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

080156 JUN-9 81

Form Approved
OMB No. 2060-0138

Name of Site: ORDILL AREA 12
Address of Site: CRAB ORCHARD NAT'L. WILDLIFE RESERVE
CARTERVILLE, IL 62918
0.3 MILES WEST of

JUN 12 1981

003290

EPA Notification of Hazardous Waste Site

United States Environmental Protection Agency
Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

A Person Required to Notify:
Enter the name and address of the person or organization required to notify.

Name: Clin Corporation
Street: 120 Long Ridge Road
City: Stamford State: CT Zip Code: 06904

B Site Location:
Enter the common name (if known) and actual location of the site.

Name of Site: Technical Systems Operations
Street: P.O. Drawer G
City: Marion County: Williamson State: IL Zip Code: 62959

C Person to Contact:
Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form

Name (Last, First and Title): Wisely, G. Thomas
Phone: Manchester Environmental Manager
(203) 789-5634

D Dates of Waste Handling:
Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site

From (Year): 1956 To (Year): 1964

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. X Organics
2. X Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

Source of Waste:
Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. X Other (Specify)
Explosives Mfg (Dynamite & TNT)

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261)

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

Form Approved
OMB No. 2050-0118

Name of Site: ORDILL AREA 12
Address of Site: CRAB ORCHARD NAT'L. WILDLIFE RESERVE
CARTERVILLE, IL 62918

003291

...lication of Hazardous Waste Site — Side Two

...aste Quantity

Place an X in the appropriate boxes to indicate the facility types found at the site

In the "total facility waste amount" space e the estimated combined quantity ...ume) of hazardous wastes at the site ...ing cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres.

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☐ Landfill
4. ☐ Tanks
5. ☐ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☐ Drums, Below Ground
9. ☒ Other (Specify) OPEN BURNING

Total Facility Waste Amount

cubic feet 5,400

gallons

Total Facility Area

square feet

acres LESS THAN ONE

Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment

☐ Known ☐ Suspected ☐ Likely ☐ None

Unknown

Note: Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and assessi g hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publishing map showing the site location.

...escription of Site: (Optional)

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

Signature and Title:

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional. Check the boxes which best describe the relationship to the site of the person required to notify. If you are not required to notify check "Other".

Name J. E. REDDEN

Street P. O. DRAWER G

City MARION State IL Zip Code 62959

Signature [signature] Date 5/8/81

☐ Owner, Present
☐ Owner, Past
☒ Transporter
☐ Operator, Present
☐ Operator, Past
☐ Other

...D ...1-11500 Filed 4-14-81; 8:45 am]

...L ...ODE 6560-29-C

003292

EPA Notification of Hazardous Waste Site

R

United States Environmental Protection Agency
Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

810609

II #342

ILS-000-001-315

A Person Required to Notify:
Enter the name and address of the person or organization required to notify

Name OLIN CORPORATION
Street 120 LONG RIDGE ROAD
City STAMFORD State CT Zip Code 06904

***B Site Location:**
Enter the common name (if known) and actual location of the site.

Name of Site TECHNICAL SYSTEMS OPERATION
Street P.O. DRAWER G
City MARION County WILLIAMSON State IL Zip Code 62959

C Person to Contact:
Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title) WISELY, G THOMAS
Phone WINCHESTER ENVIRONMENTAL MANAGER
(203) 789-5634
FTS 8 - ~~644-75~~ 645-2111

D Dates of Waste Handling:
Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year) 1965 To (Year) 1966

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☒ Organics
2. ☒ Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

Source of Waste:
Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☒ Other (Specify) EXPLOSIVES MFG (Propellants)

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261)

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

000155 JUN-9 81

Form Approved
OMB No. 2060-0138

JUN 12 1981

✓* NAME OF SITE: ORDILL D. AREA
ADDRESS OF SITE: CRAB ORCHARD NAT'L WILDLIFE REFUGE
CARTERVILLE, IL 62918
1.5 MILES WEST OF IL RTE 148

003293

EPA Notification of Hazardous Waste Site

United States Environmental Protection Agency Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

A Person Required to Notify:
Enter the name and address of the person or organization required to notify.

Name OLIN CORPORATION
Street 120 LONG RIDGE ROAD
City STAMFORD State CT Zip Code 06904

***B Site Location:**
Enter the common name (if known) and actual location of the site.

Name of Site TECHNICAL SYSTEMS OPERATION
Street P.O. DRAWER G
City MARION County WILLIAMSON State IL Zip Code 62959

C Person to Contact:
Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title) WESLEY G THOMAS
WINCHESTER ENVIRONMENTAL MANAGER
Phone (203) 759-5634

D Dates of Waste Handling:
Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year) 1965 To (Year) 1966

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☒ Organics
2. ☒ Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

Source of Waste:
Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☒ Other (Specify) EXPLOSIVES MFG (Propellants)

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 761)

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

Form Approved
OMB No. 2060-0118

* NAME OF SITE: ORDILL D. AREA
ADDRESS OF SITE: CRAB ORCHARD NAT'L WILDLIFE REFUGE
CARTERVILLE, IL 62918

003294

...ition of Hazardous Waste Site — Side Two

Quantity

An X in the appropriate boxes to ...te the facility types found at the site

...e "total facility waste amount" space ... the estimated combined quantity ...tume) of hazardous wastes at the site ...ng cubic feet or gallons

...the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☐ Landfill
4. ☐ Tanks
5. ☐ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☐ Drums, Below Ground
9. ☐ Other (Specify) OPEN BURNING

Total Facility Waste Amount

cubic feet 5,400

gallons

Total Facility Area

square feet

acres LESS THAN ONE

Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment

☐ Known ☐ Suspected ☐ Likely ☐ None

UNKNOWN

Note: Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and assessi... hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

I Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publishing map showing the site location.

...escription of Site: (Optional)

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

J Signature and Title:

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional. Check the boxes which best describe the relationship to the site of the person required to notify. If you are not required to notify check "Other".

Name J.E. REDDEN

Street P.O. DRAWER 6

City MARION State IL Zip Code 62959

Signature J E Redden Date 5/8/81

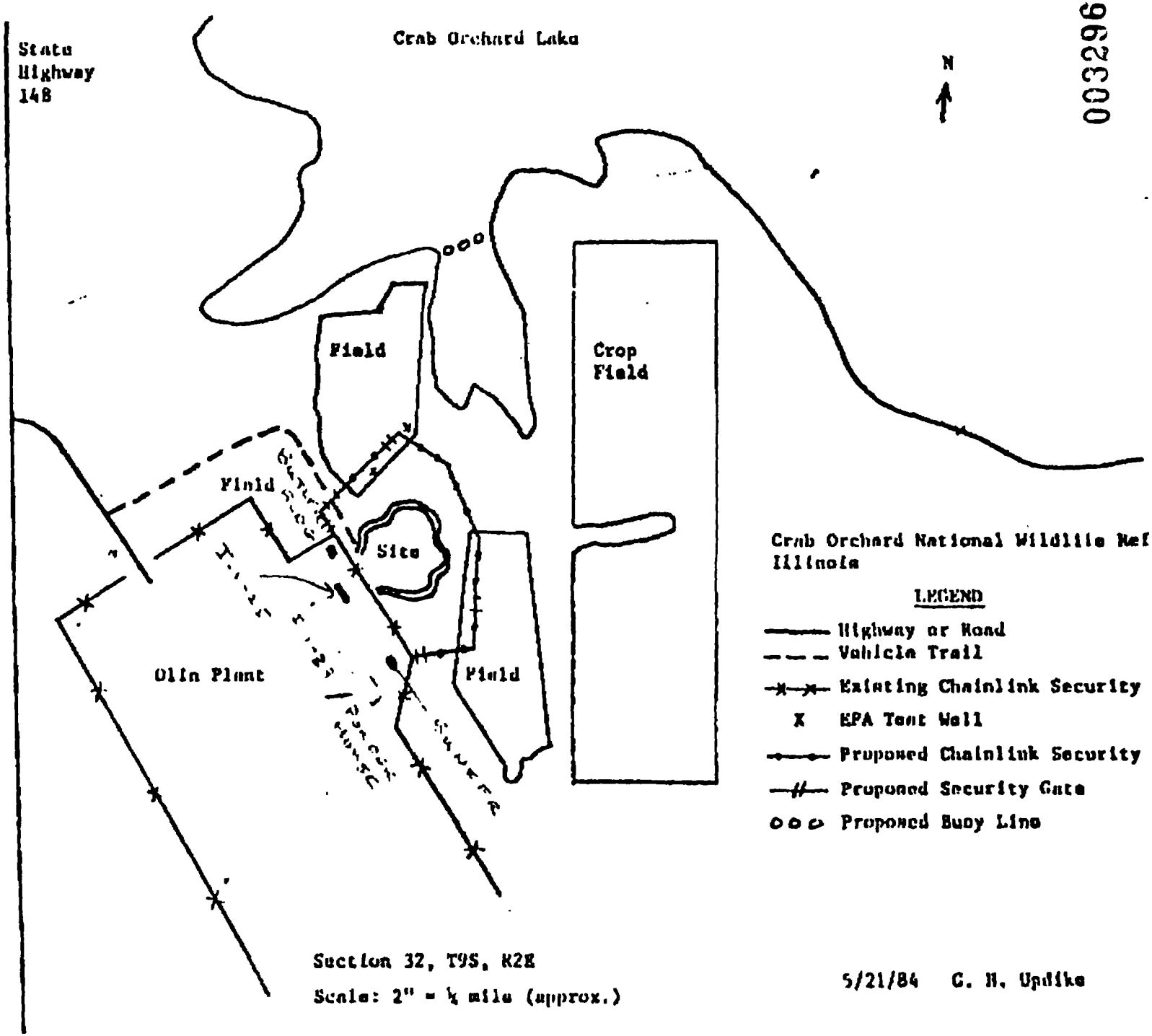
☐ Owner, Present
☐ Owner, Past
☒ Transporter
☐ Operator, Present
☐ Operator, Past
☐ Other

FR D ...1-11500 Filed 4-14-81, 8:45 am]

IL ...ODE 6560-29-C

003295

003296


State
Highway
148
Crab Orchard Lake
N
Field
Crop
Field
Field
Site
Olin Plant
Field
Crab Orchard National Wildlife Refuge,
Illinois
LEGEND
Highway or Road
Vehicle Trail
Existing Chainlink Security Fence
X EPA Test Well
Proposed Chainlink Security Fence
Proposed Security Gate
Proposed Buoy Line
Section 32, T9S, R2E
Scale: 2" = ¼ mile (approx.)
5/21/84 C. N. Updike

EPA Notification of Hazardous Waste Site

United States Environmental Protection Agency Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

R II #339 ILS-000-001-317

A Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name OLIN CORPORATION
Street 120 LONG RIDGE ROAD
City STAMFORD State CT Zip Code 06904

X B Site Location:

Enter the common name (if known) and actual location of the site.

Name of Site TECHNICAL SYSTEMS OPERATIONS
Street P.O. DRAWER G
City MARION County WILLIAMSON State IL Zip Code 62959

C Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title) WISELY G THOMAS
Phone WINCHESTER ENVIRONMENTAL MANAGER
(203) 789-5634

D Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year) 1967 To (Year) 1967

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste: Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. X Organics
2. X Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

Source of Waste: Place an X in the appropriate boxes

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. X Other (Specify) EXPLOSIVES MFG. (Pyrotechnic)

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261)

Specific Type of Waste: EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

revised 9-22-81

000161 JUN -9 81

Form Approved OMB No. 2060-0138

JUN 12 1981

NAME OF SITE: DRILL I AREA.
ADDRESS OF SITE: CRAB ORCHARD NAT'L WILDLIFE REFUGE
CARTERVILLE, IL 62918
0.3 MILES EAST OF ILL. RTE 148
2.5 MILES SOUTH OF

003297

EPA Notification of Hazardous Waste Site

United States Environmental Protection Agency Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

A Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name OLIN CORPORATION
Street 120 LONG RIDGE ROAD
City STAMFORD State CT Zip Code 06904

X B Site Location:

Enter the common name (if known) and actual location of the site.

Name of Site TECHNICAL SYSTEMS OPERATIONS
Street P.O. DRAWER G
City MARION County WILLIAMSON State IL Zip Code 62959

C Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title) WISELY G THOMAS
Phone WINCHESTER ENVIRONMENTAL MANAGER
(203) 789-5634

D Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year) 1967 To (Year) 1967

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste: Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☒ Organics
2. ☒ Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

Source of Waste: Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☒ Other (Specify) EXPLOSIVES MFR (Pyrotechnics)

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261)

Specific Type of Waste: EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

Form Approved OMB No. 2050-0118

X NAME OF SITE: DRDLL I AREA
ADDRESS OF SITE: CRAB ORCHARD NAT'L WILDLIFE REFUGE
CARTERVILLE, IL 62918

003298

...ation of Hazardous Waste Site — Side Two

...aste Quantity

...ace an X in the appropriate boxes to indicate the facility types found at the site

In the "total facility waste amount" space ... the estimated combined quantity unit) of hazardous wastes at the site ng cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☐ Landfill
4. ☐ Tanks
5. ☐ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☐ Drums, Below Ground
9. ☐ Other (Specify) OPEN BURNING

Total Facility Waste Amount

cubic feet 5400

gallons

Total Facility Area

square feet

acres LESS THAN ONE

Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment

☐ Known ☐ Suspected ☐ Likely ☐ None

UNKNOWN

Note: Items H and I are optional Completing these items will assist EPA and State and local governments in locating and assessi hazardous waste sites Although completing the items is not required, you are encouraged to do so

Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location Draw an arrow showing the direction north You may substitute a publishing map showing the site location.

...escription of Site: (Optional)

Describe the history and present conditions of the site Give directions to the site and describe any nearby wells, springs, lakes, or housing Include such information as how waste was disposed and where the waste came from Provide any other information or comments which may help describe the site conditions.

Signature and Title:

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A) For other persons providing notification, the signature is optional Check the boxes which best describe the relationship to the site of the person required to notify If you are not required to notify check "Other"

Name J. E. REDDEN

Street P.O. DRAWER G

City MARION State IL Zip Code 62959

Signature J. E. Redden Date 5/6/81

- ☐ Owner, Present
- ☐ Owner, Past
- ☒ Transporter
- ☐ Operator, Present
- ☐ Operator, Past
- ☐ Other

...R [illegible]-11500 Filed 4-14-81, 8:45 am]

...ILE ...ODE 6560-29-C

003299

EPA Notification of Hazardous Waste Site

5

United States Environmental Protection Agency Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space use separate sheets of paper. Indicate the letter of the item which applies.

810609

IL#338

ILS-000-001-318

A Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name OLIN CORPORATION

Street 120 LONG RIDGE ROAD

City STAMFORD State CT Zip Code 06904

B Site Location:

Enter the common name (if known) and actual location of the site.

Name of Site TECHNICAL SYSTEMS OPERATIONS

Street P.O. DRAWER G

City MARION County WILLIAMSON State IL Zip Code 62959

C Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title) WISELY, G THOMAS

Phone WINCHESTER ENVIRONMENTAL MANAGER

(203) 789-5634

D Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year) 1968 To (Year) 1969

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste: Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☒ Organics
2. ☒ Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

Source of Waste: Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☒ Other (Specify) EXPLOSIVES MFG (Pyrotechnic & Propellants)

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261)

Specific Type of Waste: EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

Form Approved OMB No. 2060-0124

000159 JUN-9 81

JUN 12 1981

★ NAME OF SITE: QRDILL ÷ OGDEN ROAD

ADDRESS OF SITE: CRAB ORCHARD NAT'L WILDLIFE REFUGE
CARTERVILLE, IL 62918
1.3 MILES WEST OF ILL. RTE. 148

003300

EPA Notification of Hazardous Waste Site

United States Environmental Protection Agency Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981

Please type or print in ink. If you need additional space use separate sheets of paper. Indicate the letter of the item which applies.

A Person Required to Notify:

Enter the name and address of the person or organization required to notify

Name: OLIN CORPORATION
Street: 120 LONG RIDGE ROAD
City: STAMFORD State: CT Zip Code: 06904

***B Site Location:**

Enter the common name (if known) and actual location of the site.

Name of Site: TECHNICAL SYSTEMS OPERATIONS
Street: P.O. DRAWER G
City: MARION County: WILLIAMSON State: IL Zip Code: 62959

C Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title): WISELY G. THOMAS
Phone: WINCHESTER ENVIRONMENTAL MANAGER
(203) 739-5634

D Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year): 1968 To (Year): 1969

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste. Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

- 1. [X] Organics
- 2. [X] Inorganics
- 3. [ ] Solvents
- 4. [ ] Pesticides
- 5. [ ] Heavy metals
- 6. [ ] Acids
- 7. [ ] Bases
- 8. [ ] PCBs
- 9. [ ] Mixed Municipal Waste
- 10. [ ] Unknown
- 11. [ ] Other (Specify)

Source of Waste: Place an X in the appropriate boxes.

- 1 [ ] Mining
- 2. [ ] Construction
- 3. [ ] Textiles
- 4. [ ] Fertilizer
- 5. [ ] Paper/Printing
- 6. [ ] Leather Tanning
- 7. [ ] Iron/Steel Foundry
- 8. [ ] Chemical, General
- 9. [ ] Plating/Polishing
- 10. [ ] Military/Ammunition
- 11. [ ] Electrical Conductors
- 12 [ ] Transformers
- 13. [ ] Utility Companies
- 14. [ ] Sanitary/Refuse
- 15 [ ] Photofinish
- 16. [ ] Lab/Hospital
- 17 [ ] Unknown
- 18 [X] Other (Specify) EXPLOSIVES MFG (Trinitrotoluene)

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261)

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

Form Approved OMB No. 2060-0118

003301

* NAME OF SITE: CRDALL ÷ OGDEN ROAD
ADDRESS OF SITE: CRAB ORCHARD NAT'L WILDLIFE REFUGE
CARTERVILLE, IL 62918

...on of Hazardous Waste Site Side Two

Quantity

...an X in the appropriate boxes to ...ate the facility types found at the site

...the "total facility waste amount" space ...ve the estimated combined quantity ...lume) of hazardous wastes at the site ...sing cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☐ Landfill
4. ☐ Tanks
5. ☐ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☐ Drums, Below Ground
9. ☒ Other (Specify) OPEN BURNING

Total Facility Waste Amount

cubic feet 5400

gallons

Total Facility Area

square feet

acres LESS THAN ONE

Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment

☐ Known ☐ Suspected ☐ Likely ☐ None

Unknown

Note: Items H and I are optional Completing these items will assist EPA and State and local governments in locating and assessi g hazardous waste sites Although completing the items is not required, you are encouraged to do so

Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site Place an X on the map to indicate the site location Draw an arrow showing the direction north You may substitute a publishing map showing the site location

...escription of Site: (Optional)

Describe the history and present conditions of the site Give directions to the site and describe any nearby wells, springs, lakes, or housing Include such information as how waste was disposed and where the waste came from Provide any other information or comments which may help describe the site conditions.

Signature and Title:

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional Check the boxes which best describe the relationship to the site of the person required to notify If you are not required to notify check "Other"

Name J.E. REDDEN

Street P.O. DRAWER G

City MARION State IL Zip Code 62959

Signature [signature] Date 5/6/81

☐ Owner, Present
☐ Owner, Past
☒ Transporter
☐ Operator, Present
☐ Operator, Past
☐ Other

RD 81-11500 Filed 4-14-81, 8:45 am]

ILL ODE 6560-29-C

003302

EPA Notification of Hazardous Waste Site

United States
Environmental Protection
Agency
Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

A Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name OLIN CORPORATION
Street 120 LONG RIDGE ROAD
City STAMFORD State CT Zip Code 06904

***B Site Location:**

Enter the common name (if known) and actual location of the site

Name of Site TECHNICAL SYSTEMS OPERATION
Street P.O. DRAWER G
City MARION County WILLIAMSON State IL Zip Code 62959

C Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form

Name (Last, First and Title)
Phone

D Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year) 1967 To (Year) 1971

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources you are encouraged to describe the site in Item I—Description of Site

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1 ☐ Organics
2. ☐ Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5 ☐ Heavy metals
6. ☐ Acids
7 ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☒ Other (Specify)
NON-EXPLOSIVE WASTE

Source of Waste:
Place an X in the appropriate boxes

1. ☐ Mining
2. ☐ Construction
3 ☐ Textiles
4. ☐ Fertilizer
5 ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8 ☐ Chemical, General
9 ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15 ☐ Photofinish
16. ☐ Lab/Hospital
17 ☐ Unknown
18 ☒ Other (Specify)
EXPLOSIVES MFG

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261)

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

ONLY NON-HAZARDOUS WASTE DISPOSED OF HERE

Form Approved
OMB No. 2060-0118

003303

*NAME OF SITE: ORDICL WATER TOWER
ADDRESS OF SITE: CRAB ORCHARD NAT'L. WILDLIFE REFUGE
CARTERVILLE, IL 62918

Notification of Hazardous Waste Site — Side Two

F Waste Quantity

Place an X in the appropriate boxes to indicate the facility types found at the site

In the "total facility waste amount" space give the estimated combined quantity (volume) of hazardous wastes at the site using cubic feet or gallons

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres

Facility Type

1 ☐ Piles
2 ☐ Land Treatment
3 ☒ Landfill
4 ☐ Tanks
5 ☐ Impoundment
6 ☐ Underground Injection
7 ☐ Drums, Above Ground
8 ☐ Drums, Below Ground
9 ☐ Other (Specify) _____

Total Facility Waste Amount

cubic feet 2000

gallons _____

Total Facility Area

square feet _____

acres LESS THAN ONE

G Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment ☐ Known ☐ Suspected ☐ Likely ☐ None

Note: Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and assessing hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

H Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publishing map showing the site location.

I Description of Site: (Optional)

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

J Signature and Title:

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional. Check the boxes which best describe the relationship to the site of the person required to notify. If you are not required to notify check "Other".

Name J. E. REDDEN

Street P.O. DRAWER "G"

City MARION State IL Zip Code 62959

Signature [signature] Date 5/8/81

☐ Owner, Present
☐ Owner, Past
☒ Transporter
☐ Operator, Present
☐ Operator, Past
☐ Other

[FR Doc. 81-11500 Filed 4-14-81, 8:45 am]

BILLING CODE 6560-29-C

003304

EPA Notification of Hazardous Waste Site

United States Environmental Protection Agency
Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

A Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name OLIN CORPORATION
Street 120 LONG RIDGE ROAD
City STAMFORD State CT Zip Code 06904

*** B Site Location:**

Enter the common name (if known) and actual location of the site.

Name of Site TECHNICAL SYSTEMS OPERATION
Street P.O. DRAWER G
City MARION County WILLIAMSON State IL Zip Code 62959

C Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form

Name (Last, First and Title)
Phone

D Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year) 1956 To (Year) 1966

E Waste Type: Choose the option you prefer to complete

Option I: Select general waste types and source categories. If you do not know the general waste types or sources you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☐ Organics
2. ☐ Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☒ Other (Specify)
NON-EXPLOSIVE WASTE

Source of Waste:
Place an X in the appropriate boxes

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☒ Other (Specify)
EXPLOSIVES MFG

Option 2. This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261)

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

ONLY NON-HAZARDOUS TRASH DISPOSED OF HERE

Form Approved
OMB No. 2060-0118

*NAME OF SITE: ORDIL FIRE STATION
ADDRESS OF SITE: CRAB ORCHARD WILDLIFE REFUGE
CARTERVILLE, IL 62918

003305

Notification of Hazardous Waste Site — Side Two

E Waste Quantity

Place an X in the appropriate boxes to indicate the facility types found at the site

In the "total facility waste amount" space give the estimated combined quantity (volume) of hazardous wastes at the site using cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres.

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☒ Landfill
4. ☐ Tanks
5. ☐ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☐ Drums, Below Ground
9. ☐ Other (Specify) _____

Total Facility Waste Amount

cubic feet 3000

gallons _____

Total Facility Area

square feet _____

acres LESS THAN ONE

F Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment ☐ Known ☐ Suspected ☐ Likely ☐ None

Note: Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and assessing hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

H Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publishing map showing the site location.

I Description of Site: (Optional)

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

J Signature and Title:

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional. Check the boxes which best describe the relationship to the site of the person required to notify. If you are not required to notify check "Other."

Name J. C. REDDEN

Street P. O. DRAWER "G"

City MARION State IL Zip Code 62959

Signature [signature] Date 5/8/81

- ☐ Owner, Present
- ☐ Owner, Past
- ☒ Transporter
- ☐ Operator, Present
- ☐ Operator, Past
- ☐ Other

FR 81-11500 Filed 4-14-81, 8:45 am]
BILLING CODE 6560-29-C

003306

SUPERFUND - Section 103 (c)

Notification of Hazardous Waste Site
Summary and Rationale

Notification: (Yes) No

Status: Owner / (Operator) (Present) / Past Period: 1965-1966

Location: Technical Systems Operation
Ondill D. Area
Crab Orchard Natl Wildlife Refuge
Carterville, Ill 62918

Process/Products:

Gas Generator manufacturing

Type of Waste:

Gas Generator sweep

Types of Treatment/Storage/Disposal:

Open burning

Quantity of Waste:

Eckhandt report 100 Tons

Area of Site:

Release to the Environment:

Rationale (Regulatory and Historical):

Visited March 1980 size 20x20 ft
Very little evidence of past activities.
Eckhandt report:
Traces of resins/elastomers, inorganics, traces of asbestos and shock sensitive waste.

003307

SUPERFUND - Section 103 (c)

Notification of Hazardous Waste Site
Summary and Rationale

Notification: (Yes) No

Status: Owner / Operator Present / Past Period:
1967-1967

Location: Technical Systems Operation
Ardell I Area
Crab Orchard Natl Wildlife Refuge
Carterville, IL. 62918

Process/Products:
Illumination flare manufacturing

Type of Waste:
Pyrotechnic scrap

Types of Treatment/Storage/Disposal:
Open burning

Quantity of Waste:
Eckhardt report 100 Tons

Area of Site:

Release to the Environment:

Rationale (Regulatory and Historical):
Visited site March 1980
Very little remains of past activity
No knowledge of ground contamination
Eckhardt Report
Magnesium ash, traces of resins/elastomers, inorganic salts, traces of asbestos and charb sensitive was to

003308

SUPERFUND - Section 103 (c)

Notification of Hazardous Waste Site
Summary and Rationale

Notification: (Yes) No

Status: Owner / Operator Present / Past Period:
Transporter 1968 - 1969

Location: Technical Systems Operation - Marion, IL.
Ondill Ogden Road
Crab Orchard Nat'l Wildlife Refuge
Carterville, IL. 62918

Process/Products:

Gas Generator manufacturing
Illumination (pyrotechnic) Flares

Type of Waste:

Combustible scrap from above

Types of Treatment/Storage/Disposal:

Open burning

Quantity of Waste:

Eckhandt report 100 TONS

Area of Site:

Release to the Environment:

Rationale (Regulatory and Historical):

Visited site March 1980 see photos
Very little remains of past activities
No knowledge of ground contamination
Eckhandt report:
Magnesium ash, trace resins/plastiges, inorganic salts, trace of asbestos and shock sensitive wastes.

003309

SUPERFUND - Section 103 (c)

Notification of Hazardous Waste Site
Summary and Rationale

Notification: (Yes) (No)

Status: Owner / Operator Present / Past Period:
Transporter 1967-1971

Location: Technical Systems Operation - Marion, Il.
Ordill Water Tower
Crab Orchard Nat'l Wildlife Refuge
Carterville, IL. 62918

Process/Products:
[redacted]
Gas Generator Manufacturing
Illumination (pyrotechnic) Flare manufacturing

Type of Waste:
Non hazardous waste

Types of Treatment/Storage/Disposal:
Landfill

Quantity of Waste:
Unknown

Area of Site:

Release to the Environment:

Rationale (Regulatory and Historical):
An Eckhardt report was filed:
. Landfill, mixed industrial waste
Traces of asbestos
Filing doesn't seem necessary - no hazardous waste taken there (asbestos not regulated by RCRA)
Eckhard filed because of process waste

003310

SUPERFUND - Section 103 (c)

Notification of Hazardous Waste Site
Summary and Rationale

Notification: Yes (No)

Status: Owner / Operator Present / Past Period:
Transporter 1956 - 1966

Location: Technical Systems Operation
Ardell Fire Station
Crab Orchard Wildlife Refuge
Carterville, Ill 62918

Process/Products:

Dynamite and Gas Generator manufacturing

Type of Waste:

Non-hazardous scrap

Types of Treatment/Storage/Disposal:

Landfill

Quantity of Waste:

Unknown

Area of Site:

Release to the Environment:

Rationale (Regulatory and Historical):

An Eckhardt report was filed:
Landfill, mixed industrial waste
Traces of asbestos.

Filing doesn't seem necessary - no hazardous waste taken there (asbestos not regulated by RCRA)

Eckhardt filed because of process waste

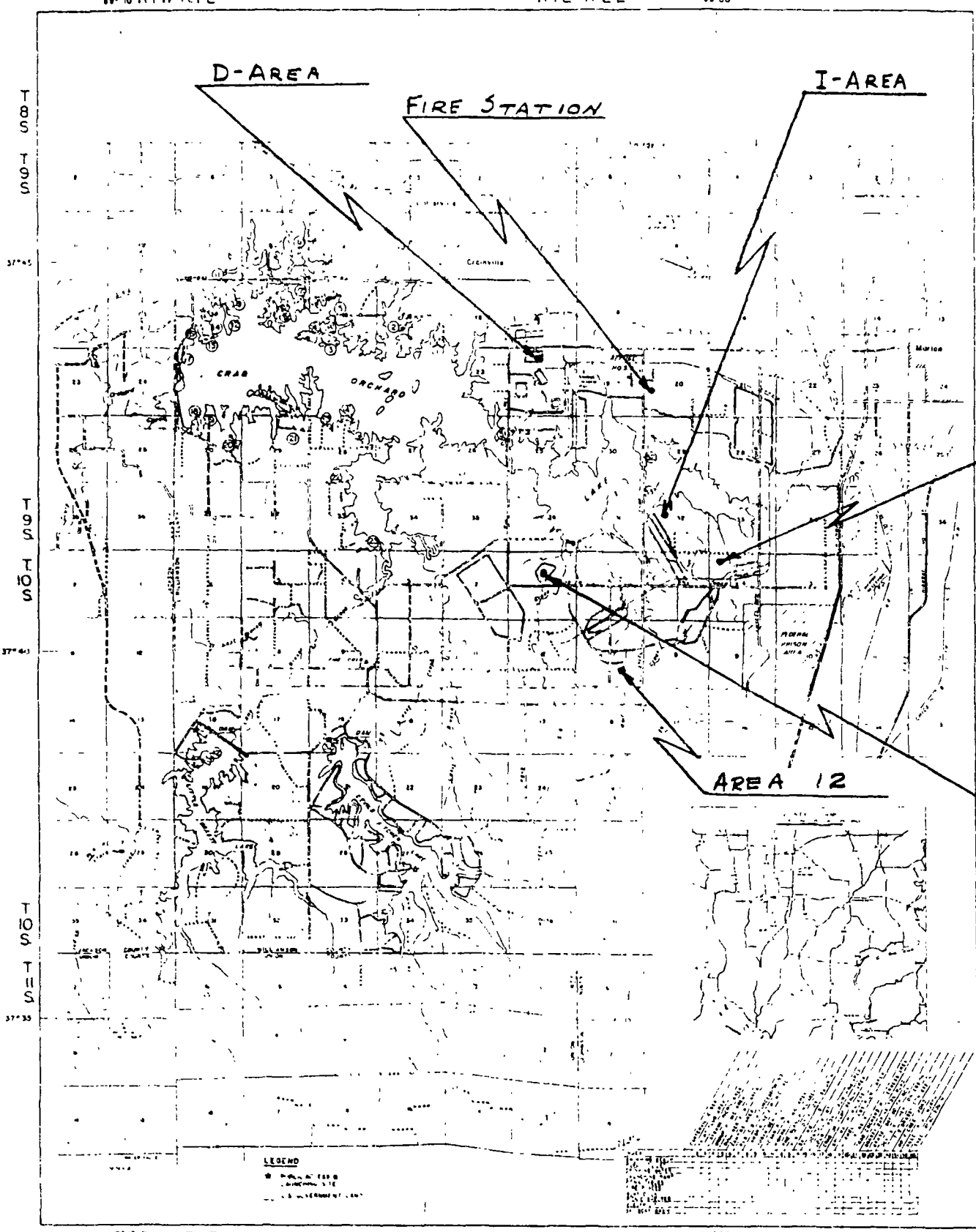
003311

CRAB ORCHARD NATIONAL WILDLIFE REFUGE

JACKSON, UNION, AND WILLIAMSON COUNTIES, ILLINOIS

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE



R1W R1E

R1E. R2E

89°00

COMPILED IN THE BRANCH OF ENGINEERING FROM OFFICIAL RECORDS IN THE FILES THEREOF AND COUNTY MAPS FROM THE STATE OF ILLINOIS

MINNEAPOLIS, MINNESOTA — JAN 1962 — REV SEPT 1964

THIRD PRINCIPAL MERIDIAN

Scale

TOWNSHIP DIAGRAM

MEAN DECLINATION 1960

SR ILL 415 401

PRIVILEGED DOCUMENT OUT SHEET

Privileged Document Cover Sheet Number: 603315

FORM OM-10000 REV. 961

INTER OFFICE MEMO Olin

ED 383-81

TO G. T. Wisely AT DATE 10 December 1981

FROM R. D. Altekruse AT COPY TO C. Clark
W. Barton

SUBJECT Waste Disposal Sites

The following comments are offered in response to your telephone questions of 9 December 1981 on the above subject.

Question

What has happened to the residue from the water tower and other open burning sites?

Answer

Residue at all open burning sites has been essentially absorbed into the earth and disseminated over surrounding land. Essentially all the sites are now overgrown with vegetation.

Question

What action should we take to determine if soil at Ogden Road site and other open burning sites is harmfully contaminated?

Answer

The only logical type of contamination to have resulted from the open burning would be heavy metal contamination. The degree of contamination would be expected to be similar for all open burning locations. The U. S. Fish and Wildlife Service has sampled the earth at the I-area site and found high lead concentration. They are not associating presence of lead with Olin's operation, but suspect that the lead came from previous use of the area as a trash dump by Sangamo Electric Co., a former tenant of nearby property now occupied by Olin.

003316

(IMC) March 24, 1980

International Minerals and Chemicals
Trojan Division

[redacted]

Area 12

~~[illegible]~~ U.S. Powder - Commercial [illegible]
[illegible] signs with contaminated area ~~[illegible]~~ on them.

Area (1) burning pads } A.N. propellant
(2) burning cage } Double base propellant
dynamite

(2) still there - to [illegible] to walls [illegible]
(1) can-not [illegible] of burning pads
or [illegible] sites

U.S. Powder has 4.5 (lbs) million of cannon powder stored in [illegible] (some DB some TB)
[illegible] from [illegible] to U.S. Powder

(1963)
[illegible] sold to U.S. Powder (C.C.) as they were operators (dynamite [illegible]) until recently. they are now decontaminating area and buildings.

003318

3-24-80

(9) Water Tower - 1/4 mile off road - too muddy to walk
Wildlife landfill - waste from - (domestic waste)
- Wildlife
- Area industry
- VTI
- Mine - no explosive waste

Pit 10-12 feet deep, 10 ft wide

I - Area

Thorny & fence - no evidence of problem. Burning pit (5-7 feet deep) [illegible] filled in later -

Fire Hazard

Same as (9) no evidence of problem
(thicket) ~~[illegible]~~

D Area Burning Pad just south of 1/6 stage
20 ft x 20 ft rocky - metal - cheerel wood

Doesn't appear to be a problem - area could be [illegible] [illegible] up - smoothed out a bit

003219

INTER OFFICE MEMO Olin

TO J.E. Redden AT DATE May 21, 1984

FROM G.T. Wisely AT COPY TO S. Spiller

SUBJECT Ordill Hazardous Waste Site Investigation

As I understand, the first article about the old Sangamo Electric dump site containing PCBs appeared in the Southern Illinoisan on April 29, 1984 and such articles have continued to be published since that date. It seems to be understood that Olin didn't take any waste to the Sangamo site.

Because of the attention being given to the Sangamo site and the pressure being applied to the Wildlife Management, Wayne Adams, Refuge Manager, has indicated to us that the Corp of Engineers will be brought in to investigate other sites on the refuge in the near future.

As you are aware, Olin submitted Superfund Notification of Hazardous Site reports to the USEPA in June of 1981:

Location	Date of Olin Use
Ordill Area 12	1956 - 1964
D Area	1965 - 1966
I Area	1967
Ogden Road	1968 - 1969

Two other sites were also included on the Eckhardt Survey in 1979. Olin took non-hazardous plant trash which may have contained trace amounts of asbestos from gas generator manufacturing to these two sites:

Ordill Fire Station	1956 - 1966
Water Tower	1967 - 1971

The above six sites were investigated and discussed in detail in the Review of Waste Disposal Sites report submitted in December 1981 to corporate to satisfy Dr. Irani's request. As part of that investigation, it was decided to analyze soil samples from the D area and the Energy test site burning locations to evaluate levels of environmental concern. The metals extraction analysis showed metal concentrations well below regulatory limits.

A Review of Winchester Group's Hazardous Waste Activities report was prepared for H.E. Blaine in November 1983 and included these sites. From the information we have available and the history of the activities of Olin which would have generated waste that went to the burning sites, it was felt that the sites have been investigated adequately and no further action is necessary at the present time.

003221

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD: ONE YEAR _____ OTHER _____

OC-10000 REV. 1/81

Presently, a potential exposure that has been identified to Olin from the PCB site is furnishing drinking water to our employees from treated water from the Crab Orchard lake. I contacted the Illinois EPA, Marion office, and was told that the treated water has been analyzed quarterly for PCBs since July 1983. No PCBs have been found. The detection limit for PCBs is 10 parts per trillion.

If addition information is needed, please contact me.

G.T. Wisely

G.T. Wisely

/tec

OLIN OFFICE MEMO

R. Cole

TO H. E. Baines AT

DATE 23 July 1970

FROM Loss Prevention AT

COPY TO J. D. Atwood

SUBJECT Old Burning Grounds

The Pyrotechnic Scrap Burning Grounds that Olin used on Wildlife Refuge property will have to be decontaminated and returned to its original condition. To fulfill our obligation on this project, the following work is required:

1. Remove all metal parts from pits and surrounding areas.

2. Move all containers of scrap explosives to new Burning Grounds.

3. Apply a large quantity of fuel oil and straw to each pit and burn any remaining flammable materials.

4. After pits have been burned very thoroughly, we should use a bulldozer and fill the pits with dirt and level the area to its original condition.

Jack F. Nunley

J. F. Nunley
Loss Prevention

JFN/lc

003223

DAILY FILE THIS COPY! IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD: ONE YEAR _____

Cepheus Industries Inc.

Box 525, Marion, Illinois 62959 · 618 997 5376

Olin Corporation
T.S.O.
P.O. Drawer G
Attn: Donna Miller

Re: Ash & Soil Samples
8-31-82

	Ash & Soil D. Area	Ash & Soil Energy
Arsenic	< 0.05 ppm	< 0.05 ppm
Barium	< 0.10 ppm	< 0.10 ppm
Cadmium	< 0.05 ppm	< 0.05 ppm
Chromium	< 0.10 ppm	< 0.10 ppm
Lead	< 0.10 ppm	< 0.10 ppm
Mercury	< 0.001 ppm	< 0.001 ppm
Selenium	< 0.05 ppm	< 0.05 ppm
Silver	< 0.10 ppm	< 0.10 ppm

Philip J. Sawyer
President
9-14-82

003325

9. Asbill Waterstown (67-71) > 5 Landfill
Asbestos TR)

10. L = S Landfill (72-) > 5 ?
Asbestos (TR)

11 Marion City Landfill (77-)
Asbestos TR) Landfill

Wayne

1 B and B Disposal Mason (1977-)

2 Williams Landing Murphysboro (1972-1976)

3. Atomic Disposal Site Park, Ill. (1977)
Radioactive Waste

003327

11-20-79

Marion Disposal Sites

General

1 No radioactive materials buried at these sites.
2. Common practice to burn shock sensitive and explosive wastes (propellant, pyrotechnic, etc)
3 No apparent runoff from these sites to contaminate surface water.
4 Wells not common for drinking water source near these disposal sites. (groundwater contamination)

Asbestos

1. Asbestos buried or surfaced at all the sites.
2 Very small quantities.
3. Buried asbestos stabilized in a binder matrix.

Sampling (Ground)

1 Areas 1, 2, 3, 4, 5, — mainly open burning, nothing to compare concentration of pollutants.
Follow what Wildlife is doing.

2. Areas 8, 9, 10 & 11 — Only bag material is asbestos, small quantities, stabilized in matrix.

003328

PRIVILEGED DOCUMENT OUT SHEET

Privileged Document Cover Sheet Number: 003329

INTERNAL CORRESPONDENCE MEMO

E&D-70-73

TO P. O. Boyle AT DATE March 26, 1973

FROM R. D. Altekruse AT COPY TO J. E. Redden
M. R. Sweeney

SUBJECT EPA Forms Relating to Bureau of Alcohol, Tobacco, and Firearms

Enclosed are the following:

1 copy of U.S. Treasury Memo
6 copies of U.S. Treasury Form 4805
3 copies of U.S. Treasury Form 4781

These forms require the signature of Mr. Menken. The original plus 4 copies of Form 4805 and the original plus 1 copy of Form 4871 should be submitted to:

Assistant Regional Commissioner
Alcohol, Tobacco, and Firearms
35 East Wacker Drive
Chicago, Illinois 60601

Refer to: MW:RTF:EZ
Re: 37-10807

I am retaining unsigned copies for Marion files.

R. D. Altekruse

RDA/djm

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD: ONE YEAR_____ OTHER _____

Form 4871
(March 1972)

Environmental Information

1. NAME AND PRINCIPAL BUSINESS ADDRESS OF APPLICANT	2. DESCRIPTION OF ACTIVITY	3. NUMBER OF EMPLOYEES
Olin Corporation 120 Long Ridge Road Stamford, Conn. 06904	Manufacture of Ordnance Products Including Illuminating Flares, Jet Engine Starter Cartridges and Ammunition.	600

4. LOCATION WHERE ACTIVITY IS TO BE CONDUCTED *(Be specific. Describe location, including buildings and outside equipment, and their situation relative to surrounding environment including other structures, land use, roads, and railroad facilities. Maps, photos, or drawings may be provided.)*

Located on the Crab Orchard National Wild Life Refuge in Williamson County, Illinois.(See attached map of area.)

5. HEAT AND POWER:

A. Describe types of heat and power to be used and their sources. If they are to be produced in connection with the proposed activity, estimate type and quantity of fuel to be used for each purpose. *(Example: 40 tons/yr. anthracite coal for heat, 20 million cu.-ft./yr. natural gas for power generating.)*

Nine individual boilers are operated to supply heat. Estimated annual fuel consumption is 71,000,000 cu.ft. of natural gas and 3,500,000 pounds of #2 fuel oil.

B. Describe any air pollution control equipment proposed for use in connection with fuel burning equipment, boilers, or smokestacks.

None

6. SOLID WASTE:

A. Describe amount and content of any solid waste to be generated.

Waste paper, cardboard, etc. - 100,000 lb/year. Waste explosive and pyrotechnic - 100,000 lb/year.

B. Describe proposed method of disposal *(Incineration, open burning, landfill, etc.)*. Specify whether on-site or off-site.

Paper, cardboard, etc. to off-site landfill.
Explosive and pyrotechnics to on-site special incinerator.

C. Describe any air pollution control equipment proposed for use in connection with any incinerators, etc.

Incinerator equipped with high energy wet venturi scrubber with 99.7% particulate removal efficiency.

000131

...pliance with any environmental quality ...l, State, or local agency having responsibility for environmental protection including any certification unde Section 21(b) of the Federal Water Pollution Control Act.)

A. Describe amount and content of any liquid waste to be generated.

Sanitary and cooling water - 75,000,000 gal/year.

B. Describe proposed method of disposal *(Sewer, flaming, recycling, etc.)*. Describe any proposed means to monitor quality and characteristics, and any proposed equipment or facilities for treatment or control of liquid wastes.

Discharged to Crab Orchard National Wild Life Refuge Sewage Treatment Plant operated by U.S. Department of Interior.

8. NOISE *(Describe operational noise sources other than those normally associated with office operations, building maintenance, or utilities.)*

None

Under penalties of perjury, I declare that I have examined the information shown on this form and, to the best of my knowledge and belief, it is true, correct, and complete. I agree that copies of this form may be furnished to concerned Federal, State, and local agencies having responsibilities for environmental protection and that the information hereon may be used in the preparation of an environmental statement pursuant to the requirements of the National Environmental Policy Act, 42 U.S.C. 4321.

9. DATE	10. APPLICANT	11. BY *(Signature and Title)*
3/30/73	Olin Corporation	R. C. Menken, Vice President

Internal Revenue Determination of Effect. After consideration of all available environmental information relevant to the proposed activity, it is determined that:

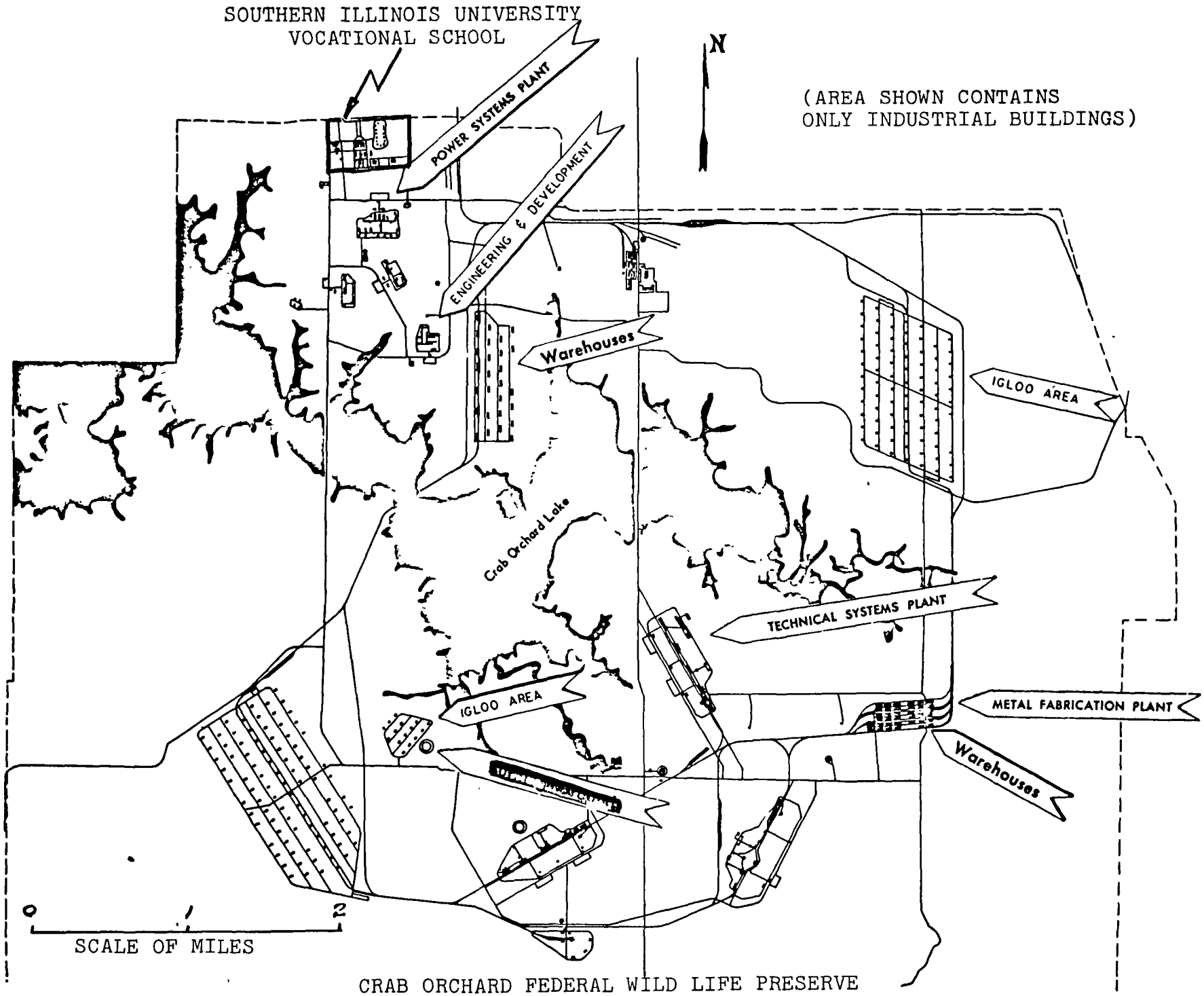
The conduct of the activity described in item 2, pursuant to issuance or approval of the _____ *(specify whether application, bond, formula, permit, license, etc.)* ☐ *will* ☐ *will not significantly affect the environment.*

SIGNATURE AND TITLE OF INTERNAL REVENUE OFFICIAL	DATE

INSTRUCTIONS

1. Submit an original and one copy of this form to the Internal Revenue Office processing the application, notice, bond, or request to which it relates.
2. Items should be reported in sufficient detail to enable the Internal Revenue Service to determine whether the conduct of the proposed activity will have a significant effect on the environment.
3. The information to be furnished on all items should relate to the activity in which the Alcohol, Tobacco and Firearms Division has an interest.
4. If additional space is required for any item, please attach a separate sheet for each item reported. Identify each such attachment with this form number, the date, the number of the item being reported, and your name and address.

FORM 4871 (3-72)


SOUTHERN ILLINOIS UNIVERSITY
VOCATIONAL SCHOOL
N
(AREA SHOWN CONTAINS
ONLY INDUSTRIAL BUILDINGS)
POWER SYSTEMS PLANT
ENGINEERING & DEVELOPMENT
Warehouses
IGLOO AREA
Crab Orchard Lake
TECHNICAL SYSTEMS PLANT
IGLOO AREA
METAL FABRICATION PLANT
Warehouses
0
1
2
SCALE OF MILES
CRAB ORCHARD FEDERAL WILD LIFE PRESERVE

Form 4805
(July 1971)

Department of the Treasury
Internal Revenue Service

Supplemental Information

Water Quality Considerations
Under 33 U.S.C. 1171(b)
(See instructions on back)

Form Number
Serial Number
Date

1. Name and principal business address of applicant	2. Plant address *(If different from address in item 1)*
Olin Corporation 120 Long Ridge Road Stamford, Conn. 06904	Olin Corporation P.O. Drawer G Marion, Ill. 62959

3. Describe activity to be conducted Manufacture of Ordnance Products involving discharge of cooling water and sanitary system water to the Crab Orchard National Wildlife Preserve Sewage Treatment System operated by the U.S. Department of Interior.

4. Describe any discharge into navigable waters which may result from the conduct of the activity described in item 3, including the biological, chemical, thermal, or other characteristic of the discharge and the location or locations at which such discharge may enter navigable waters.

No discharges to navigable waters.

5. Give the date or dates on which the activity will begin and end, if known, and on which the discharge will take place.

N/A

6. Describe the methods and means used or to be used to monitor the quality and characteristics of the discharge and the operation of equipment or facilities employed in the treatment or control of wastes or other effluents.

N/A

7. I certify that I have examined this rider and, to the best of my knowledge and belief, it is true, correct, and complete, and that copies of this rider may be furnished to the applicable State Water Quality Agency and the Regional Administrator, Environmental Protection Agency, under the provisions of 18 C.F.R. 615.11.

8. Applicant	9. By *(Signature and title)*
Olin Corporation	R.C. Menken, Vice President

1/ Enter form number, serial number, and date of application to which this rider relates.

Form 4805 (7-71)

000024

Illinois Environmental Protection Agency · 2200 Churchill Road, Springfield, IL 62706

217/782-0610

U.S. Department of the Interior
U.S. Department of the Interior
NPDES Permit No. IL0004791
Proposed Permit

FWS sewer plant Permit which goes into effect 9/1/85.

JUL 22 1985

U.S. Department of the Interior
Fish and Wildlife Service
Crab Orchard National Wildlife Refuge
Federal Building, Fort Snelling
Twin Cities, Minnesota 55111

Gentlemen:

Attached to this letter is a copy of the draft Permit, Public Notice/Fact Sheet for your discharge. The Agency proposes to issue the NPDES Permit for your discharge as shown in the draft Permit.

Please read the draft Permit carefully as the Permit as written could have a significant impact on your operations.

Fifteen days from the date of this letter, the Agency proposes to distribute the attached Public Notice/Fact Sheet statewide. If you have objections to the content of the Public Notice/Fact Sheet, a written statement must be received by the Agency at the indicated address, attention: NPDES PN Clerk within 10 days.

The Agency will receive comments regarding the Permit for a period of 30 days after the Public Notice is issued. If you wish to comment or object to any of the terms and conditions of the Permit, you must state the objections in writing within 45 days of the date of this letter.

The Agency may or may not change the Permit based on comments received from you or the public. The Agency may hold a public hearing concerning your discharge if it is determined that there exists a significant degree of public interest.

000195

If you should have questions or comments regarding the above, please contact Joe Subsits at the indicated telephone number.

Very truly yours,

Timothy R. Kluge, P.E.
Manager, Industrial Unit, Permit Section
Division of Water Pollution Control

TRK:JS:bv/1570E/1-2

Enclosures: Draft Permit/Public Notice/Fact Sheet

cc: Permit Section
Records Unit
Region 7
Consulting Engineer

NPDES Permit No. IL0004791
Notice No. JS:bv/sp/1571E
Date: JUL 2 2 1985

National Pollutant Discharge Elimination System (NPDES)
Permit Program

PUBLIC NOTICE/FACT SHEET
of
Proposed Reissued NPDES Permit to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois EPA
Division of Water Pollution Control
Permit Section
2200 Churchill Road
Springfield, Illinois 62706
217/782-0610

Name and Address of Discharger:	Name and Address of Facility:
U.S. Department of the Interior Fish and Wildlife Service Crab Orchard National Wildlife Refuge Federal Building, Fort Snelling Twin Cities, Minnesota 55111	U.S. Department of the Interior Fish and Wildlife Service Crab Orchard National Wildlife Refuge Crab Orchard Refuge Sewage Treatment Plant Post Office Box J Carterville, Illinois 62918 Williamson County

The Illinois Environmental Protection Agency (IEPA) has made a tentative determination to issue an NPDES permit to discharge into the waters of the state and has prepared a draft permit for the above named discharger.

Length of Permit:	Approximately 5 Years
Name of Receiving Waters:	Crab Orchard Lake via Pigeon Creek
Classification of Receiving Waters:	General Use

The following water quality and effluent standards and limitations were applied to the discharge:

Except as otherwise noted the effluent concentrations and load limitations (including toxics) were based on effluent and, if applicable, water quality limitations specified in Illinois Pollution Control Board (IPCB), Rules and Regulations, Subtitle C: Water Pollution.

The Crab Orchard Wildlife Refuge encompasses 44,000 acres of which 22,000 acres is fenced for the refuge operations, including conservation, agriculture and industry and the remainder is open to the public as recreation facilities. Plant operation results in an average discharge of .20 MGD of stormwater, treated sanitary and industrial wastewaters from outfall 001.

Flow will be monitored. The primary parameters to be monitored and limited are pH, BOD_5, Total Suspended Solids, Oil, Fats and Grease, Fecal Coliform, Phosphorous, Ammonia-N, Iron, Cyanide and Cadmium.

Application is made for the existing discharge which is located in Williamson County, Illinois at latitude 37° 43' 45" and longitude 89° 02' 30".

Monitoring frequencies and reporting requirements were established by using the authority set forth in IPCB, Subtitle C: Water Pollution and/or Subtitle D, Mine Related Water Pollution, Title 40, Section 122.48 and 122.44(i) of the federal regulations, and/or using the authority provided in Section 402(a)(1) of the Clean Water Act.

Load limitations were calculated as follows:

(A) Average or Maximum Flow (MGD) X Concentration Limit (mg/l) X 8.34 = lbs/day; and/or
(B) Average Monthly Production or Daily Production X Effluent Limitation from Federal Regulations = lbs/day.

The effluent limitations and special conditions, if applicable, are appended as a part of the draft permit.

Interested persons are invited to submit written comments on the draft permit to the IEPA at the above address. The NPDES permit and notice number(s) must appear on each comment page. Any interested person may submit a written request for a public hearing on the draft permit, stating his or her name and address, the nature of the issues proposed to be raised and the evidence proposed to be presented with regards to those issues.

The application, engineer's review notes including load limit calculations, Public Notice/Fact Sheet, draft permit, comments received, and other documents are available for inspection and may be copied at the IEPA between 9:30 a.m. and 5:30 p.m. Monday through Friday.

All comments on the draft permit and requests for hearing must be received by the IEPA not later than 30 days from the date of this publication. If written comments or requests indicate a significant degree of public interest in the draft permit, the permitting authority may, at its discretion, hold a public hearing. Public notice will be given 30 days before any public hearing. For further information call the Public Notice Clerk at 217/782-0610.

Pursuant to the waiver provisions authorized by 40 CFR 123.24, this proposed permit is within the class, type, and size for which the Regional Administrator, Region V, has waived his right to review, object, or comment on this proposed permit action.

NPDES Permit No. IL0004791

Illinois Environmental Protection Agency

Division of Water Pollution Control

2200 Churchill Road

Springfield, Illinois 62706

PROPOSED
Subject to Revision

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date: September 1, 1990

Issue Date:
Effective Date:

Name and Address of Discharger:

U.S. Department of the Interior
Fish and Wildlife Service
Crab Orchard National
Wildlife Refuge
Federal Building, Fort Snelling
Twin Cities, Minnesota 55111

Name and Address of Facility:

U.S. Department of the Interior
Fish and Wildlife Service
Crab Orchard National Wildlife Refuge
Crab Orchard Refuge Sewage Treatment Plant
Post Office Box J
Carterville, Illinois 62918
Williamson County

Discharge Number and Name:

001 Stormwater, treated sanitary and industrial wastewater

Receiving Waters

Crab Orchard Lake via Pigeon Creek

In compliance with the provisions of the Illinois Environmental Protection Act, Subtitle C and/or Subtitle D Rules and Regulations of the Illinois Pollution Control Board, and the FWPCA, the above-named permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.

Thomas G. McSwiggin, P.E.
Manager, Permit Section
Division of Water Pollution Control

TGM:JS:bv/sp/1571E

NPDES Permit No. IL0004791

Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day 30 DAY AVG.	LOAD LIMITS lbs/day DAILY MAX.	CONCENTRATION LIMITS mg/l 30 DAY AVG.	CONCENTRATION LIMITS mg/l DAILY MAX.	SAMPLE FREQUENCY	SAMPLE TYPE
1. From the effective date of this permit until September 1, 1990, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:						
	Outfall(s): 001					
Flow (MGD)					Measure When Monitoring	
pH	The pH shall remain within the range 6.0-9.0 at all times.				1/Month	Grab
BOD5			10.0	20.0	2/Month	Composit
Total Suspended Solids			12.0	24.0	2/Month	Composit
Oil, Fats and Grease			15.0	30.0	2/Month	Grab
Fecal Coliform	See Special Condition No. 1				1/Month	Grab
Phosphorous			1.0	2.0	2/Month	Composit
Ammonia-N	April through October November through March			1.5 4.0	1/Month 1/Month	Composit Composit
Iron (total)			2.0	4.0	2/Year	Composit
Cyanide			0.1	0.2	2/Year	Composit
Cadmium			0.15	0.30	2/Year	Composit

NPDES Permit No. IL0004791

Special Conditions

1. The daily maximum fecal coliform count shall not exceed 400 per 100 ml.

2. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

3. The permittee shall record monitoring results on Discharge Monitoring Report forms using one such form for each discharge each month. The completed Discharge Monitoring Report form shall be submitted monthly to IEPA, no later than the 15th of the following month, unless otherwise specified by the Agency, to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
2200 Churchill Road
Springfield, Illinois 62706

ATTACHMENT H

4

Standard Conditions

Definitions

Act means the Illinois Environmental Protection Act, Ch. 111 1/2 Ill. Rev. Stat., Sec. 1001-1051 as Amended.

Agency means the Illinois Environmental Protection Agency.

Board means the Illinois Pollution Control Board.

Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) means Pub. L. 92-500, as amended. 33 U.S.C. 1251 et seq.

NPDES (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act.

USEPA means the United States Environmental Protection Agency.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Maximum Daily Discharge Limitation (daily maximum) means the highest allowable daily discharge.

Average Monthly Discharge Limitation (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Discharge Limitation (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Aliquot means a sample of specified volume used to make up a total composite sample.

Grab Sample means an individual sample of at least 100 milliliters collected at a randomly-selected time over a period not exceeding 15 minutes.

24 Hour Composite Sample means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

8 Hour Composite Sample means a combination of at least 3 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hour period.

Flow Proportional Composite Sample means a combination of sample aliquots of at least 100 milliliters collected at periodic intervals such that either the time interval between each aliquot or the volume of each aliquot is proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot.

(1) Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the revocation and reissuance, or modification, or for denial of a permit renewal application. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

(2) Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, this permit shall continue in full force and effect until the final Agency decision on the application has been made.

(3) Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(4) Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(5) Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

(6) Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(7) Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

(8) Duty to provide information. The permittee shall furnish to the Agency within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency, upon request, copies of records required to be kept by this permit.

(9) Inspection and entry. The permittee shall allow an authorized representative of the Agency, upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit,

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit,

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.

(10) Monitoring and records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of this permit, measurement, report or application. This period may be extended by request of the Agency at any time.

(c) Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;

(2) The individual(s) who performed the sampling or measurements;

(3) The date(s) analyses were performed;

(4) The individual(s) who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of such analyses.

(d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee must submit to the Agency a test method for approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

(11) Signatory requirement. All applications, reports or information submitted to the Agency shall be signed and certified.

(a) Application. All permit applications shall be signed as follows:

(1) For a corporation: by a principal executive officer of at least the level of vice president,

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

(b) Reports. All reports required by permits, or other information requested by the Agency shall be signed by a person described in paragraph (a) or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a), and

(2) The authorization specifies either an individual or a position responsible for the overall operation of the facility, from which the discharge originates, such as a plant manager, superintendent or person of equivalent responsibility, and

(3) The written authorization is submitted to the Agency.

(c) Changes of Authorization If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility a new authorization satisfying the requirements of (b) must be submitted to the Agency prior to or together with any reports information or applications to be signed by an authorized representative

(12) Reporting requirements

(a) Planned Changes The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility

(b) Anticipated noncompliance The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements

(c) Compliance schedules Reports of compliance or noncompliance with or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date

(d) Monitoring reports Monitoring results shall be reported at the intervals specified elsewhere in this permit

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR)

(2) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR 136 or as specified in the permit the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR

(3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit

(e) Twenty-four hour reporting The permittee shall report any noncompliance which may endanger health or the environment Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances The written submission shall contain a description of the noncompliance and its cause the period of noncompliance including exact dates and times and if the noncompliance has not been corrected the anticipated time it is expected to continue and steps taken or planned to reduce eliminate and prevent reoccurrence of the noncompliance The following shall be included as information which must be reported within 24 hours

(1) Any unanticipated bypass which exceeds any effluent limitation in the permit.

(2) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit to be reported within 24 hours.

The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24 hours

(f) Other noncompliance The permittee shall report all instances of noncompliance not reported under paragraphs (12)(c), (d) or (e), at the time monitoring reports are submitted The reports shall contain the information listed in paragraph (12)(e)

(g) Other information Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.

(13) Transfer of permits A permit may be automatically transferred to a new permittee if

(a) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date.

(b) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittees and

(c) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit If this notice is not received the transfer is effective on the date specified in the agreement

(14) All manufacturing commercial, mining and silvicultural dischargers must notify the Agency as soon as they know or have reason to believe

(a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following notification levels

(1) One hundred micrograms per liter (100 ug/l

(2) Two hundred micrograms per liter (200 ug/l for acrolein and acrylonitrile five hundred micrograms per liter (500 ug/l for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol and one milligram per liter (1 mg/l for antimony

(3) Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application or

(4) The level established by the Agency in this permit

(b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the NPDES permit application

(15) All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Agency of the following

(a) Any new introduction of pollutants into that POTW from an indirect discharger which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants and

(b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit

(c) For purposes of this paragraph adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW

(16) If the permit is issued to a publicly owned or publicly regulated treatment works, the permittee shall require any industrial user of such treatment works to comply with federal requirements concerning

(1) User charges pursuant to Section 204(b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35

(2) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act, and

(3) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act

(17) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) and (D) 304(b)(2) or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit the permit shall be promptly modified or revoked, and reissued to conform to that effluent standard or limitation.

(18) Any authorization to construct issued to the permittee pursuant to 35 Ill Adm Code 309 154 is hereby incorporated by reference as a condition of this permit.

(19) The permittee shall not make any false statement, representation or certification in any application, record, report, plan or other document submitted to the Agency or the USEPA, or required to be maintained under this permit.

(20) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302 306, 307, 308 318 or 405 of the Clean Water Act is subject to a civil penalty not to exceed $10 000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302 306 307, or 308 of the Clean Water Act is subject to a fine of not less than $2,500, nor more than $25,000 per day of violation, or by imprisonment for not more than one year or both.

(21) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(22) The Clean Water Act provides who knowingly makes any false statement, representation or certification in any record or other document submitted or required to be maintained under this permit shall, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(23) Collected screening slurries, sludges and other solids shall be disposed of in such a manner as to prevent entry of those wastes (or runoff from the wastes) into waters of the State The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.

(24) In case of conflict between these standard conditions and any other condition(s) included in this permit, the other condition(s) shall govern.

(25) The permittee shall comply with, in addition to the requirements of the permit, all applicable provisions of 35 Ill Adm Code Subtitle C, Subtitle D Subtitle E and all applicable orders of the Board

(26) The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit is held invalid the remaining provisions of this permit shall continue in full force and effect.

ILLINOIS EPA
Environmental Protection Agency
2200 Churchill Road, Springfield, Illinois 62706

217/782-0610

U.S. Department of the Interior, Fish and Wildlife Service
Crab Orchard National Wildlife Refuge, Crab Orchard Refuge Sewage Treatment Plant
NPDES Permit No. IL0004791
Final Permit

FWS sewer plant permit for 5/1/80 - 5/1/85.

FEB 10 1981

Mr. Wayne W. Adams
U.S. Department of the Interior
Fish and Wildlife Service
Crab Orchard National Wildlife Refuge
Crab Orchard Refuge Sewage Treatment Plant
Post Office Box J
Carterville, Illinois 62918

Gentlemen:

Attached is the final NPDES Permit for your discharge. The Permit as issued covers discharge limitations, monitoring, and reporting requirements. The failure of you to meet any portion of the Permit could result in civil and/or criminal penalties. The Illinois Environmental Protection Agency is ready and willing to assist you in interpreting any of the conditions of the Permit as they relate specifically to your discharge.

The Permit as issued is effective as of the date indicated on the first page of the Permit. You have the right to appeal any condition of the Permit to the Illinois Pollution Control Board prior to the effective date.

Should you have questions concerning the Permit, please contact Yogesh Sheth at the telephone number indicated above.

Very truly yours,

Thomas G. McSwiggin

Thomas G. McSwiggin, P.E.
Manager, Permit Section
Division of Water Pollution Control

TGM:LWE:YVS:sf/sp/3235b

Enclosure: Final Permit

cc: USEPA/With Enclosure
Region 7/With Enclosure
Permit Section
Records Unit
Consulting Engineer

NPDES Permit No. IL0004791

Illinois Environmental Protection Agency

Division of Water Pollution Control

2200 Churchill Road

Springfield, Illinois 62706

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date:	May 1, 1985	Issue Date: February 10, 1981 Effective Date: March 12, 1981
Permittee:	U.S. Department of the Interior, Fish and Wildlife Service, Crab Orchard National Wildlife Refuge, Crab Orchard Refuge Sewage Treatment Plant	
Facility Name and Address:	Post Office Box J, Carterville, Illinois 62918, Williamson County	
Receiving Waters:	Unnamed ditch tributary to Pigeon Creek, tributary to Crab Orchard Lake	

In compliance with the provisions of the Illinois Environmental Protection Act, the Chapter 3 Rules and Regulations of the Illinois Pollution Control Board, and the FWPCA, the above-named permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.

Thomas G. McSwiggin, P.E.
Manager, Permit Section
Division of Water Pollution Control

TGM:LWE:YVS:sf/sp/3235b

ATTACHMENT B

Effluent Limitations and Monitoring

Discharge Number(s): 001

Discharge Name(s): Sanitary and Industrial Waste Water

From effective date of permit until the expiration date of this permit, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	CONCENTRATION LIMITS mg/l			LOAD LIMITS lbs/day (Kg/day)			SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	7 DAY AVG.	DAILY MAX.	30 DAY AVG.	7 DAY AVG.	DAILY MAX.		
Flow (MGD)							Measure When Monitoring	
pH	6.0		9.0				1/Month	Grab
BOD_5	10		25	29.4(13.3)		119(54)	1/Month	24 hour Composite
Total Suspended Solids	12		30	35(16)		143(65)	1/Month	24 hour Composite
Oil, Fats & Grease	15		30	44(20)		143(65)	1/Month	Grab
Fecal Coliform			400				1/Month	Grab
Ammonia-N			1.5				1/Month	24 hour Composite
Total Chlorine Residual	0.75						1/Month	Grab
Phosphorus			1.0	2.9(1.3)		4.8(2.2)	1/Month	24 hour Composit
Iron (total)			2.0	5.9(2.7)		9.5(4.3)	1/Month	Composit
Iron (dissolved)			.5	1.5(.7)		2.4(1.08)	1/Month	Composit
Cyanide	0.1		0.2	0.3(.13)		0.95(.43)	1/Month	Composit
Cadmium			0.15	0.44(.2)		0.7(.32)	1/Month	Composit
Chloride			500				1/Month	Composite
Sulfate			500				1/Month	Composite

V = drop in 6 months if levels good

ATTACHMENT B CONTINUED

1. The pH shall be in the range 6.0 to 9.0.

2. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

3. The daily maximum fecal coliform count shall not exceed 400 per 100 ml.

4. The effluent ammonia-nitrogen concentration shall be limited to a level that will comply with the provisions of Illinois Pollution Control Board Rules and Regulations, Chapter 3, Rule 402.1 during its period of effectiveness, and thereafter to a level that will not cause the receiving stream to exceed the water quality standard in Rule 203(f), Chapter 3.

5. The effluent chloride, sulfate and phosphorus concentration in the subject discharge shall be limited to a level that will not cause the receiving stream to exceed the water quality standard in Rule 203 of the Illinois Pollution Control Board, Chapter 3, Rules and Regulations.

6. The permittee shall record monitoring results on Discharge Monitoring Report Forms using one such form for each discharge each month.

   Discharge Monitoring Reports shall be mailed to the IEPA at the following address:

   Illinois Environmental Protection Agency
   Division of Water Pollution Control
   2200 Churchill Road
   Springfield, Illinois 62706

   Attention: NPDES Unit (DMR)

7. The completed Discharge Monitoring Report forms shall be retained by the permittee for a period of six months and then shall be mailed and received by the IEPA in accordance with the following schedule, unless otherwise specified by the permitting authority.

Period	Received by IEPA
June, July, August, September, October, November	December 15
December, January, February, March, April, May	June 15

NPDES Permit No. IL0004791

ATTACHMENT B CONTINUED

8. At the option of the Illinois Environmental Protection Agency, the monitoring and reporting of iron (total), iron (dissolved), cyanide and cadmium as listed in Attachment B may be discontinued, providing that the following conditions have been met:

   A. No violations of the maximum permit limitations are observed during the period of which the parameters were monitored.

   B. Monitoring of the parameters indicates a consistent average, with little deviation, at a point below the permitted average concentration.

   C. The parameters indicated in Attachment B have been monitored for a continuous period of 6 calendar months.

The permittee must make the request to discontinue the monitoring in writing and include a summary of the data collected.

ATTACHMENT H

Standard Conditions

Act means the Illinois Environmental Protection Act, Ch. 111 1/2 Ill Rev. Stat., Sec. 1001-1051 as Amended.

Agency means the Illinois Environmental Protection Agency.

Board means the Illinois Pollution Control Board.

Chapter 3 means the Illinois Pollution Control Board Rules and Regulations, Chapter 3. Water Pollution.

Daily maximum means the maximum unit magnitude discharged during any calendar day.

Director means the Director of the Illinois Environmental Protection Agency.

FWPCA means the Federal Water Pollution Control Act, as amended, 33 U.S.C. 466 et seq., Public Law 95-217, approved December 27, 1977 (commonly referred to as the Clean Water Act).

NPDES means the National Pollutant Discharge Elimination System.

Weekly average means the arithmetic mean of samples collected during a period of seven consecutive calendar days for the purposes of monitoring and reporting.

Monthly average means the arithmetic mean of samples collected during a calendar month for purposes of monitoring and reporting. Alternatively, monthly average may be construed by the Illinois Environmental Protection Agency to be defined as the arithmetic means of samples collected during any period of 30 consecutive calendar days.

1. All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such discharges will not violate the effluent limitations specified in this permit, by notice to the Agency of such changes. Following such notice, the permit may be revised to specify and limit any pollutants not previously limited.

2. In case of conflict between these standard conditions and any special conditions attached to this permit, the special conditions shall govern.

3. Except as otherwise provided in the Permit, all waters of the State shall be kept free from unnatural sludge or bottom deposits, floating solids, visible oil, odor, unnatural plant or algae growth, unnatural color or turbidity, visible foam or matter in concentrations or combinations toxic or harmful to human, animal, plant or aquatic life of other than natural origin.

4. Pursuant to Chapter 3, this permit may be modified, suspended or revoked in whole or in part during its term for cause including, but not limited to, the following

   a. Violation of any terms or conditions of the permit (including, but not limited to, schedules of compliance and conditions concerning monitoring, entry, and inspection),

   b. Obtaining a permit by misrepresentation or a failure to disclose fully all relevant facts, or,

   c. A change in any circumstance that mandates either a temporary or permanent reduction or elimination of the permitted discharge.

5. This permit may not be assigned or transferred In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Agency.

6. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

7. The permittee shall allow any agent duly authorized by the Agency and/or the United States Environmental Protection Agency upon the presentation of credentials:

   a. To enter the permittee's premises where effluent sources are located or in which any records are required to be kept under the terms and conditions of this permit.

   b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit.

   c. To inspect at reasonable times any monitoring equipment or monitoring method required to be kept by this permit

   d. To sample at reasonable times any discharge of pollutants.

8. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalities to which the permittee is or may be subject under Section 311 of the FWPCA and shall not be construed to relieve the permittee from civil or criminal penalities for noncompliance.

9. Nothing in this permit shall be construed to preclude the institution of any legal action nor relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the FWPCA.

10. Any owner of any publicly owned or regulated treatment works shall give notice to the Agency of the following

    a. Any new introduction of pollutants into such treatment works from a source which would be a new source as defined in Section 306 of the FWPCA if such source were discharging pollutants directly to the waters of the State,

    b. Except as to such categories and classes of point sources or discharges which may be specified by the Agency, any new introduction of pollutants into such treatment works from a source which would be a point source subject to Section 301 of the FWPCA if it were discharging such pollutants directly to the waters of the State,

    c. Any substantial change in volume or character of pollutants being introduced into such treatment works by a source introducing pollutants into such works at the time of issuance of the permit; and

    Such notices shall contain information on:

    The quality and quantity of wastewater to be introduced into such treatment works, and

    Any anticipated impact of such change in the quantity or quality of effluent to be discharged from such publicly owned or publicly regulated treatment works.

11. If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established pursuant to Section 307(a) of the FWPCA for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, this permit shall be revised by the Agency in accordance with the toxic effluent standard or prohibition and the permittee shall be so notified.

12. If for any reason the permittee does not comply with or will be unable to comply with any parameter limitation or other condition as specified in this permit, or should any unusual or extraordinary discharge of waste occur from the facilities herein permitted, the permittee shall provide the Agency with the following information in writing within five (5) days of becoming aware of the condition:

    a. A description of the non-complying discharge including the impact upon the receiving water.

    b. Cause of non-compliance.

    c. Anticipated time the condition of non-compliance is expected to continue, or if such condition has been corrected, the duration of the period of non-compliance.

    d. Steps to be taken by the permittee to prevent recurrence of the condition of non-compliance.

    e. Steps taken by the permittee to reduce and eliminate non-compliance.

13. The diversion or bypass of any discharge from the treatment works by the permittee is prohibited, except (1) where unavoidable to prevent the loss of life or severe property damage; or, (2) where excessive storm drainage runoff would damage any facilities necessary for compliance with the terms and conditions of this permit. The permittee shall notify the Agency within 72 hours of each diversion or bypass in accordance with the procedure specified in Standard Condition 12 for reporting non-compliance. The permittee shall within 30 days after such incident submit for approval a plan to prevent recurrence of such incidents.

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14. The permittee shall take all reasonable steps to minimize any adverse impact on waters of the State resulting from non-compliance with any effluent limitations specified in this permit. The permittee will also provide accelerated or additional monitoring as necessary to determine the nature and the impact of the non-complying discharge(s).

15. The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures either by means of alternate power sources, standby generators or retention of inadequately treated effluent. Should the treatment works not include the above capabilities at the time of permit issuance, the permittee must furnish within 120 days to the Agency, for approval, plans for such facilities and an implementation schedule for their installation.

16. The permittee shall effectively monitor the operation and efficiency of all treatment and control facilities and the quantity and quality of the treated discharge. The permittee must obtain the equipment necessary to perform the tests designated by the influent and effluent limitations indicated in Schedule B, and A if included, or be able to utilize other laboratory services to determine and report the necessary results. Samples and measurement taken as required herein shall be representative of the volume and nature of the monitored discharge. Monitoring data required for this permit shall be summarized on a calendar month basis. Individual reports for each reporting period are to be submitted on the basis indicated in Schedule B and A if included of this permit, and/or on the appropriate forms as indicated by the Agency. Original copies of the Discharge Monitoring Report form properly signed and completed must be submitted and postmarked within fifteen (15) days after the end of the reporting period to. Illinois EPA, DWPC, 2200 Churchill Road, Springfield, Illinois, 62706, Attention: NPDES Unit (DMR).

17. The permittee shall record for all samples the date and time of sampling, the sampling method used, the date that analyses were performed, the identity of the analyses, and the results of all required analysis and measurements. All sampling and analytical records required by this permit shall be retained for a minimum of three years. The permittee shall also retain all original records from any continuous monitoring instrumentation and any calibration and maintenance records for a minimum of three years The periods will be extended on a day-for-day basis during the course of any unresolved litigation, or when so requested by the Agency.

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form. Such increased frequency shall also be indicated.

18. The analytical and sampling methods used shall conform to 40 CFR Part 136 which includes selected methods from current editions of the reference manuals listed below:

    a. "Standard Methods for the Examination of Water and Wastewaters", APHA, Washington, D.C.

    b. "A.S.T.M. Standards, Part 31, Water", American Society for Testing and Materials, Philadelphia, Pennsylvania.

    c. "Methods for Chemical Analysis of Water and Waste", EPA, Technology Transfer.

    The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements

19. Except for data determined to be confidential pursuant to Section 7 or 7.1 of the Act or Section 308 of the FWPCA, all monitoring reports recorded by this permit shall be available for public inspection at the offices of the Agency. Knowingly making any false statement on any such report may result in the implementation of criminal penalties as provided for in Section 309 of the FWPCA and Section 44 of the Act.

20. The permittee shall at all times maintain in good working order and operate as efficiently as possible any facilities or systems of control installed by the permittee to achieve compliance with the terms and conditions of the permit.

21. Owners of publicly owned or publicly regulated treatment works shall require that any industrial user of such treatment works comply with federal requirements concerning:

    a. User charges and recovery of construction costs pursuant to Section 204(b) of the FWPCA, and applicable regulations in 40 CFR 35;

    b. Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the FWPCA,

    c. Inspection, monitoring and entry pursuant to Section 308 of the FWPCA.

22. Collected screenings, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes (or runoff from the wastes) into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.

23. If any interim effluent limitations and/or schedule of compliance is provided for in this permit pursuant to Rule 409 of Chapter 3, the permittee is required to take such action to bring the discharge into compliance within the shortest period of time possible If the Agency determines that the permittee is not taking timely action to secure the appropriate grant funding, the Agency may take the following actions

    a. Place the permittee on restricted status.

    b. Initiate appropriate enforcement action.

24. The discharge(s) authorized by this permit shall comply with, in addition to the requirements of the permit, all applicable provisions of Chapter 3 or applicable orders of the Board which are consistent with the FWPCA or regulations adopted thereunder.

25. The permittee shall not commence construction or modification of any treatment works, disposal well, wastewater source, or process modification until an authorization to construct has been issued pursuant to Rule 910 of Chapter 3. If an authorization to construct is issued, it is hereby incorporated as a condition of this permit.

26. The permittee is not authorized to discharge after the expiration date In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Agency not later than 180 days prior to the expiration date.

27. "This permit may be modified or revised, or, alternatively revoked and reissued, to comply with an applicable effluent limitation issued pursuant to the order of the United States District Court for the District of Columbia issued on June 8, 1976, in Natural Resources Defense Council, Inc et al v. Russell E Train, 8 ERC 2120 (D.D.C. 1976), if the effluent limitation so issued.

    (1) is different in conditions or more stringent than any effluent limitation in the permit, or

    (2) controls any pollutant not limited in the permit."

    This permit may be revised, following notice by the Agency that applicable effluent limitations covered by the Natural Resources Defense Council, Inc. et.al. v. Train, 8 E.R.C. 2120 (D.D.C. 1976) will not be promulgated, to incorporate any applicable effluent limitation determined under Section 402(a)(1) of the Federal Water Pollution Control Act. (FWPCA) Amendments of 1972 as necessary to carry out the provisions of Section 301(b)(2)(a) of the FWPCA, if the effluent limitation so determined,

    a. Is more stringent than any effluent limitation in the permit, or

    b. Controls any pollutant not limited in the permit.

28. This permit may be revised to incorporate, if necessary, applicable provisions of an approved 209 plan pursuant to Section 208 of the FWPCA.

29. Applicable new or amended Pollution Control Board Rules or Regulations, Regulations promulgated pursuant to the FWPCA or Amendments to the FWPCA shall be incorporated herein and become part hereof when the Rule, Regulation or Amendment becomes effective. The Agency will notify each affected NPDES permittee of such incorporation.

30. The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

JG/bs/4621/1-8
(Rev. 9/19/78)

INTER-OFFICE MEMO

TO For the file DATE 11/1/87

copy: A. Henry
J Bailey

Re National Survey of HW-TSDR
facilities - Drill
IL 814 360 948 7

The enclosed survey was submitted to the USEPA today via their provided envelope.

BY J Schneiderman

GBC GREIF BROS. CONTAINERS

003375

WINCHESTER

ORDNANCE PRODUCTS

25 September 1987

U.S. Environmental Protection Agency
MD 99-RTI
Research Triangle Park, N.C. 27711

ATTENTION: Ms. Marcia Williams, Director
Office of Solid Waste

REFERENCE: National Survey of Hazardous Waste
Treatment, Storage, Disposal and
Recycling Facilities
IL8143609487 Olin Corporation

Dear Ms. Williams:

Per your request, enclosed please find the completed national survey, questionnaires A, I, and M for Olin Corporation's facility with the USEPA ID #IL8143609487.

If further information or clarification is required, please advise in writing to the undersigned.

Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AHJ/kc

Encl. 1.) Questionnaire A: General Facility Information
2.) Questionnaire I: Other Processes (Treatment or Recovery)
3.) Questionnaire M: Land Treatment

003376

EPA

National Survey of Hazardous Waste Treatment, Storage, Disposal, and Recycling Facilities

QUESTIONNAIRE A

GENERAL FACILITY INFORMATION

RTI ID: 016162 Q-A 1 of 1
EPA ID: IL8143609487

OLIN CORP
ORDILL INDUSTRIAL AREA
MARION IL 62959

This questionnaire applies only to the facility listed on this label. Refer to this label as instructed in the questionnaire.

003377

Read the Instructions booklet **BEFORE** you answer this questionnaire. The Instructions contain example questions, lists of RCRA and other waste codes, and other important information you will need to consult as you complete the questions.

This questionnaire asks for general information about hazardous waste management operations at this facility:

- Quantities of hazardous waste treated, recovered for reuse, accumulated, stored, and disposed of onsite in units requiring a RCRA permit and units exempt from RCRA permitting requirements.
- Quantities and types of hazardous waste generated onsite and received from offsite.
- General ownership and operator information.
- Quantities and management operations for special types of hazardous waste—contained gas, highly reactive material, and radioactive mixed waste.
- Accumulation and storage of hazardous waste in containers.
- A general facility-wide schematic and detailed schematics showing all hazardous waste management operations.

For this survey, report all waste in the following categories as hazardous waste:

- Any waste considered hazardous waste by RCRA (40 CFR 261.3)
- Any waste considered hazardous by your state
- Any waste considered hazardous in the state **in which it was generated**, even if it is not considered hazardous by your state
- Wastes containing polychlorinated biphenyls (PCBs)
- Wastes containing asbestos
- Wastes containing dioxins.

If you wish to clarify or explain any answers you give, use the two lined pages labeled "FACILITY NOTES" at the end of this questionnaire. Beside each question you wish to clarify or explain, write "see note." Then turn to the note pages, enter the question number, and write your comments beside that number. If a single note applies to more than one question, write the numbers of all the questions the note applies to.

If you have any questions about this survey or this questionnaire, call the Survey Helpline (1-800-635-8850).

1. What activities are or will be conducted onsite at this facility to manage hazardous waste?

For this survey, the MANAGEMENT of hazardous waste includes the treatment, recovery for reuse, storage, accumulation, and disposal of hazardous waste. It does not include the transportation or generation of hazardous waste.

Include in your answer activities that are CURRENTLY CONDUCTED to manage hazardous waste onsite, as well as any activities that this facility PLANS to conduct onsite before January 1992.

Hazardous Waste Management Activities Onsite	*Circle 01 or 02 for EACH hazardous waste management activity listed below.*	
Type of activity	**Does/Will this facility have hazardous waste management activities of this type onsite?** *(Circle one)*	
	Yes	**No**
a. Accumulation/storage of hazardous waste in containers—Questionnaire A	(01)	02
b. Incineration—Questionnaire B	01	(02)
c. Reuse as fuel—Questionnaire C	01	(02)
d. Fuel blending—Questionnaire D	01	(02)
e. Solidification/stabilization—Questionnaire E	01	(02)
f. Solvent and liquid organic recovery for reuse—Questionnaire F	01	(02)
g. Metals recovery for reuse—Questionnaire G	01	(02)
h. Wastewater treatment—Questionnaire H	01	(02)
i. Other processes (treatment or recovery)—Questionnaire I	01	(02)
j. Treatment or storage of hazardous waste in waste piles—Questionnaire J	01	(02)
k. Treatment, storage, or disposal of hazardous waste in surface impoundments—Questionnaire K	01	(02)
l. Landfill disposal—Questionnaire L	01	(02)
m. Land treatment—Questionnaire M	01	(02)
n. Underground injection—Questionnaire N	01	(02)
o. Management of hazardous waste in tanks—Questionnaire O	01	(02)

Following each type of activity listed in the table above is the questionnaire that should be completed if this hazardous waste management activity is or will be conducted onsite. If you circle 01 (Yes) for a type of activity and DID NOT RECEIVE a questionnaire for it, call the Survey Helpline (1-800-635-8850). If you circle 02 (No) for a type of activity and RECEIVED a questionnaire for it by mistake, complete the three facility identification questions as instructed by the skip patterns and **return the questionnaire with the completed questionnaires.**

GO TO QUESTION 2 if you circled 01 (Yes) for AT LEAST ONE of the hazardous waste management activities listed above.

SKIP TO QUESTION 64 on page 31 if you circled 02 (No) for ALL of the hazardous waste management activities listed above.

2. Did this facility manage hazardous waste onsite during 1986 in UNITS REQUIRING A RCRA PERMIT? *(Circle one)*

Units requiring a RCRA permit are those units for which you have a RCRA permit or interim status.

(01) Yes *(Go to next question)*
02 No *(Skip to Question 5)*

3. What quantity of hazardous waste was managed onsite during 1986 in UNITS REQUIRING A RCRA PERMIT? What percentage of this quantity was hazardous wastewater?

Report here the TOTAL quantity of hazardous waste that entered one or more of this facility's treatment, storage, accumulation, disposal, or recovery units during 1986. Include only hazardous waste that was managed in units for which you have a RCRA permit or interim status. Report hazardous waste that was accumulated ONLY if it was later stored, disposed, treated, or recovered for reuse onsite. COUNT ONLY ONCE any quantity of hazardous waste that entered more than one type of operation. For example, hazardous waste that was both treated and stored should be COUNTED ONLY ONCE. Similarly, hazardous waste that was treated more than once should be COUNTED ONLY ONCE.

Quantity of Hazardous Waste Managed Onsite in UNITS REQUIRING A RCRA PERMIT	Enter waste quantities that need to be reported in tons on row a and waste quantities that need to be reported in gallons on row b. Indicate the percentage of each quantity that was hazardous wastewater.	
Quantity	**Unit of measure**	**Percentage of quantity that was hazardous wastewater**
a. 88	Tons	0 %
b. 0	Gallons	0 %

4. What quantity of hazardous waste was managed onsite during 1986 using the following methods in UNITS REQUIRING A RCRA PERMIT?

Report here the TOTAL quantity of hazardous waste that was managed onsite using EACH management method listed below. Include only hazardous waste that was managed in units for which you have a RCRA permit or interim status. Hazardous waste that was treated more than once should be counted only once. Hazardous waste that entered more than one recovery process should be counted only once. The sum of a through e may be greater than the total quantity reported in Question 3 if hazardous waste was managed using more than one method (e.g., hazardous waste that was first treated and then disposed.)

Quantities of Hazardous Waste Managed Onsite in UNITS REQUIRING A RCRA PERMIT—By Management Method	Enter waste quantities that need to be reported in tons in the first column and waste quantities that need to be reported in gallons in the second column. Enter zero if your facility does not use a method listed below to manage hazardous waste.	
Management method	**Quantity, tons**	**Quantity, gallons**
a. Treatment	0	0
b. Recovery of materials for reuse	0	0
c. Storage	88	0
d. Disposal	0	0

5. **Did this facility manage hazardous waste onsite during 1986 in UNITS EXEMPT FROM RCRA PERMITTING REQUIREMENTS?** *(Circle one)*

Units exempt from RCRA permitting requirements are units for which you DO NOT have a RCRA permit or interim status. For example, tanks that are permitted to treat hazardous wastewater under the National Pollutant Discharge Elimination System (NPDES) are exempt from RCRA permitting requirements.

01 Yes *(Go to next question)*
(02) No *(Skip to Question 8)*

6. **What quantity of hazardous waste was managed onsite during 1986 in UNITS EXEMPT FROM RCRA PERMITTING REQUIREMENTS? What percentage of this quantity was hazardous wastewater?**

Report here the TOTAL quantity of hazardous waste that entered one or more of this facility's treatment, storage, accumulation, disposal, or recovery units during 1986. Include only hazardous waste that was managed in units for which you DO NOT have a RCRA permit or interim status. Report hazardous waste that was accumulated ONLY if it was later stored, disposed, treated, or recovered for reuse onsite. COUNT ONLY ONCE any quantity of hazardous waste that entered more than one type of operation. For example, hazardous waste that was both treated and stored should be COUNTED ONLY ONCE. Similarly, hazardous waste that was treated more than once should be COUNTED ONLY ONCE.

Quantity of Hazardous Waste Managed Onsite in UNITS EXEMPT FROM RCRA PERMITTING REQUIREMENTS	*Enter waste quantities that need to be reported in tons on row a and waste quantities that need to be reported in gallons on row b. Indicate the percentage of each quantity that was hazardous wastewater.*	
Quantity	**Unit of measure**	**Percentage of quantity that was hazardous wastewater**
a.	... Tons ...	..... % .....
b.	.. Gallons ..	..... % .....

7. What quantity of hazardous waste was managed onsite during 1986 using the following methods in UNITS EXEMPT FROM RCRA PERMITTING REQUIREMENTS?

Report here the TOTAL quantity of hazardous waste that was managed onsite using EACH management method listed below. Include only hazardous waste that was managed in units for which you DO NOT have a RCRA permit or interim status. Hazardous waste that was treated more than once should be counted only once. Hazardous waste that entered more than one recovery process should be counted only once. The sum of a through e may be greater than the quantity reported in Question 6 if hazardous waste was managed using more than one method (e.g., hazardous waste that was first treated and then disposed.)

Quantities of Hazardous Waste Managed Onsite in UNITS EXEMPT FROM RCRA PERMITTING REQUIREMENTS—By Management Method	*Enter waste quantities that need to be reported in tons in the first column and waste quantities that need to be reported in gallons in the second column. Enter zero if your facility does not use a method listed below to manage hazardous waste.*	
Management method	**Quantity, tons**	**Quantity, gallons**
a. Treatment		
b. Recovery of materials for reuse		
c. Storage		
d. Disposal		

8. What quantity of hazardous waste in each of the following categories was managed onsite during 1986?

Report here the TOTAL quantity of hazardous waste that entered one or more of this facility's treatment, storage, accumulation, disposal, or recovery units during 1986—regardless of the permit status of the unit. Report hazardous waste that was accumulated ONLY if it was later stored, disposed, treated, or recovered for reuse. COUNT ONLY ONCE any quantity of hazardous waste that entered more than one type of operation. For example, hazardous waste that was both treated and stored should be COUNTED ONLY ONCE. Similarly, hazardous waste that was treated more than once should be COUNTED ONLY ONCE.

Quantities of Hazardous Waste MANAGED ONSITE	*Enter waste quantities that need to be reported in tons on row a and waste quantities that need to be reported in gallons on row b. If none, enter zero.*		
Quantity generated onsite and managed onsite	**Quantity received from another facility under the same ownership and managed onsite**	**Quantity received from another facility NOT under the same ownership and managed onsite**	**Unit of measure**
a. 88	0	0	.... Tons ....
b. 0	0	0	.. Gallons ..

NOTE: The sum of all the quantities entered in Question 8 is equal to the TOTAL quantity of hazardous waste managed onsite during 1986.

9. **Did this facility GENERATE hazardous waste ONSITE during 1986?** *(Circle one)*

(01) Yes *(Go to next question)*

02 No *(Skip to Question 13 on page 9)*

10. **What was the TOTAL quantity of hazardous waste GENERATED ONSITE during 1986?**

Quantity of Hazardous Waste GENERATED ONSITE	*Enter waste quantities that need to be reported in tons in the first column and waste quantities that need to be reported in gallons in the second column.*
Quantity, tons	**Quantity, gallons**
114	0

11. **Of the hazardous waste GENERATED ONSITE during 1986, what quantity was shipped offsite to be managed by another facility under the same ownership? What quantity was shipped offsite to be managed by a facility not under the same ownership?**

Quantities of Hazardous Waste GENERATED ONSITE AND THEN SHIPPED OFFSITE	*Enter waste quantities that need to be reported in tons on row a and waste quantities that need to be reported in gallons on row b. If none, enter zero.*	
Quantity generated onsite and then shipped offsite to a facility under the same ownership	**Quantity generated onsite and then shipped offsite to a facility NOT under the same ownership**	**Unit of measure**
a. 28	3	Tons
b. 0	0	Gallons

12. What types and quantities of hazardous waste were GENERATED ONSITE at this facility during 1986?

List RCRA waste code(s) and a quantity, circle a unit of measure, indicate (if known) whether or not each waste was a residual from onsite hazardous waste management operations, and indicate where each waste was treated, disposed, and/or recovered for reuse—onsite, offsite, or both. Include waste described by one RCRA waste code and that described by more than one RCRA waste code. See Appendix C of the Instructions booklet for a list of RCRA and other waste codes (a list of "X" waste codes was developed specifically for this survey).

Quantities of Hazardous Waste GENERATED ONSITE by RCRA Waste Code

RCRA waste code(s)	Quantity	Unit of measure (Circle one) Ton	Unit of measure (Circle one) Gal	Was this waste a residual from onsite hazardous waste management operations? (Circle one) Yes	No	Don't Know	Where was this waste treated, disposed, or recovered? (Circle either or both) Onsite	Offsite
One RCRA waste code								
a. U158	2	(01)	02	03	(04)	05	06	(07)
b. F001	1	(01)	02	03	(04)	05	06	(07)
c. D001	65	(01)	02	03	(04)	05	06	(07)
d. D003	46	(01)	02	03	(04)	05	06	(07)
e.		01	02	03	04	05	06	07
f.		01	02	03	04	05	06	07
g.		01	02	03	04	05	06	07
h.		01	02	03	04	05	06	07
i.		01	02	03	04	05	06	07
j.		01	02	03	04	05	06	07
More than one RCRA waste code								
k. Waste Group 1								
i.								
ii.								
iii.		01	02	03	04	05	06	07
iv.								
v.								

(continued)

Quantities of Hazardous Waste GENERATED ONSITE by RCRA Waste Code (con.)

RCRA waste code(s)	Quantity	Unit of measure (Circle one) Ton	Gal	Was this waste a residual from onsite hazardous waste management operations? (Circle one) Yes	No	Don't Know	Where was this waste treated, disposed, or recovered? (Circle either or both) Onsite	Offsite
More than one RCRA waste code								
l. Waste Group 2								
i.								
ii.								
iii.		01	02	03	04	05	06	07
iv.								
v.								
m. Waste Group 3								
i.								
ii.								
iii.		01	02	03	04	05	06	07
iv.								
v.								
n. Waste Group 4								
i.								
ii.								
iii.		01	02	03	04	05	06	07
iv.								
v.								
o. Waste Group 5								
i.								
ii.								
iii.		01	02	03	04	05	06	07
iv.								
v.								

13. Did this facility RECEIVE hazardous waste from OFFSITE during 1986? *(Circle one)*

01 Yes *(Go to next question)*

(02) No *(Skip to Question 17 on page 12)*

14. What was the TOTAL quantity of hazardous waste RECEIVED FROM OFFSITE during 1986?

Report here the TOTAL quantity of hazardous waste received from offsite—regardless of facility ownership.

Quantity of Hazardous Waste RECEIVED FROM OFFSITE	*Enter waste quantities that need to be reported in tons in the first column and waste quantities that need to be reported in gallons in the second column.*
Quantity, tons	Quantity, gallons

15. Of the hazardous waste RECEIVED FROM OFFSITE during 1986, what quantity was shipped offsite to be managed by another facility under the same ownership? What quantity was shipped offsite to be managed by a facility not under the same ownership?

Quantities of Hazardous Waste RECEIVED FROM OFFSITE AND THEN SHIPPED OFFSITE	*Enter waste quantities that need to be reported in tons on row a and waste quantities that need to be reported in gallons on row b. If none, enter zero.*	
	Quantity received from offsite and then shipped offsite to a facility under the same ownership	**Quantity received from offsite and then shipped offsite to a facility NOT under the same ownership**	**Unit of measure**
a.			Tons
b.			Gallons

16. What types and quantities of hazardous waste were RECEIVED FROM OFFSITE during 1986?

List RCRA waste code(s) and a quantity, circle a unit of measure, and indicate where each waste was treated, disposed, and/or recovered for reuse—onsite, offsite, or both. Include waste described by one RCRA waste code and that described by more than one RCRA waste code. See Appendix C of the Instructions booklet for a list of RCRA and other waste codes (a list of "X" waste codes was developed specifically for this survey).

Quantities of Hazardous Waste RECEIVED FROM OFFSITE by RCRA Waste Code

RCRA waste code(s)	Quantity	Unit of measure (Circle one)		Where was this waste treated, disposed, or recovered? (Circle either or both)	
		Ton	Gal	Onsite	Offsite
One RCRA waste code					
a.		01	02	03	04
b.		01	02	03	04
c.		01	02	03	04
d.		01	02	03	04
e.		01	02	03	04
f.		01	02	03	04
g.		01	02	03	04
h.		01	02	03	04
i.		01	02	03	04
j.		01	02	03	04
More than one RCRA waste code					
k. Waste Group 1					
i.					
ii.					
iii.		01	02	03	04
iv.					
v.					

(continued)

Quantities of Hazardous Waste RECEIVED FROM OFFSITE by RCRA Waste Code

RCRA waste code(s)	Quantity	Unit of measure (Circle one) Ton	Gal	Where was this waste treated, disposed, or recovered? (Circle either or both) Onsite	Offsite
More than one RCRA waste code					
l. Waste Group 2					
i. [ ][ ][ ][ ]					
ii. [ ][ ][ ][ ]					
iii. [ ][ ][ ][ ]	[ ][ ][ ][ ][ ][ ][ ][ ]	01	02	03	04
iv. [ ][ ][ ][ ]					
v. [ ][ ][ ][ ]					
m. Waste Group 3					
i. [ ][ ][ ][ ]					
ii. [ ][ ][ ][ ]					
iii. [ ][ ][ ][ ]	[ ][ ][ ][ ][ ][ ][ ][ ]	01	02	03	04
iv. [ ][ ][ ][ ]					
v. [ ][ ][ ][ ]					
n. Waste Group 4					
i. [ ][ ][ ][ ]					
ii. [ ][ ][ ][ ]					
iii. [ ][ ][ ][ ]	[ ][ ][ ][ ][ ][ ][ ][ ]	01	02	03	04
iv. [ ][ ][ ][ ]					
v. [ ][ ][ ][ ]					
o. Waste Group 5					
i. [ ][ ][ ][ ]					
ii. [ ][ ][ ][ ]					
iii. [ ][ ][ ][ ]	[ ][ ][ ][ ][ ][ ][ ][ ]	01	02	03	04
iv. [ ][ ][ ][ ]					
v. [ ][ ][ ][ ]					

Use the list of four-digit Standard Industrial Classification (SIC) codes in Appendix B of the Instructions booklet to answer Questions 17 and 18.

17. What is the primary four-digit SIC code for this facility?

3	4	8	2

18. What other four-digit SIC codes describe the operations onsite that generate the greatest quantities of hazardous waste? *(List up to three secondary codes. If no hazardous waste was generated onsite during 1986 or if there are no secondary codes for this facility, enter "NA.")*

a. | 3 | 4 | 8 | 9 |

b. | | | | |

c. | | | | |

19. Who owns this facility? *(Circle one)*

(01) Federal government
02 State government
03 Local government
04 Private owner—sole proprietor, partnership, or corporation
05 Other owner _____

_____
(describe)

20. Who operates this facility? *(Circle one)*

01 Federal government
02 State government
03 Local government
(04) Private operator—sole proprietor, partnership, or corporation
05 Other operator _____

_____
(describe)

21. Does this facility SEND hazardous waste to offsite facilities UNDER THE SAME OWNERSHIP or parent ownership? *(Circle one)*

(01) Yes *(Go to next question)*
02 No *(Skip to Question 23)*

22. What facilities UNDER THE SAME OWNERSHIP or parent ownership does this facility SEND hazardous waste to?

Enter the name, EPA identification number, and the location (city and state) for each. Call the Survey Helpline (1-800-635-8850) if you need additional answer spaces.

a. Facility 1

i. Name: OLIN CORPORATION

ii. EPA ID number: ILD000802801

iii. Location: MARION (City) IL (State)

b. Facility 2

i. Name:

ii. EPA ID number:

iii. Location: (City) (State)

c. Facility 3

i. Name:

ii. EPA ID number:

iii. Location: (City) (State)

d. Facility 4

i. Name:

ii. EPA ID number:

iii. Location: (City) (State)

23. Does this facility RECEIVE hazardous waste from offsite facilities UNDER THE SAME OWNERSHIP or parent ownership? *(Circle one)*

01 Yes *(Go to next question)*
(02) No *(Skip to Question 25)*

24. What facilities UNDER THE SAME OWNERSHIP or parent ownership does this facility RECEIVE hazardous waste from?

Enter the name, EPA identification number, and the location (city and state) for each facility. Call the Survey Helpline (1-800-635-8850) if you need additional answer spaces.

a. Facility 1

i. Name:

ii. EPA ID number:

iii. Location: (City) (State)

b. Facility 2

i. Name:

ii. EPA ID number:

iii. Location: (City) (State)

c. Facility 3

i. Name:

ii. EPA ID number:

iii. Location: (City) (State)

d. Facility 4

i. Name:

ii. EPA ID number:

iii. Location: (City) (State)

25. What was the total number of employees onsite at this facility during 1986? What operations were they employed in?

Count ONLY ONCE any employee who works in more than one area. If there are no employees working in an area described below, enter zero.

Number of Employees Onsite	
Question	**Number of Employees**
a. Typical number of employees	275
b. Typical number of employees in hazardous waste management operations	15
c. Typical number of employees in clerical, administrative, maintenance and other activities (e.g., laboratories) in support of hazardous waste management operations	5
d. Typical number of contractor personnel in hazardous waste management operations	0

26. What is the total land area of this facility?

Total Land Area of This Facility	*Enter your answer in ACRES.*
Total land area	

CONTAINED HAZARDOUS WASTE GAS

27. **Did this facility manage contained waste gas onsite during 1986 that was classified as RCRA hazardous waste?** *(Circle one)*

    01 Yes *(Go to next question)*
    (02) No *(Skip to Question 35)*

28. **What is the status of this facility's RCRA contained hazardous waste gas management operations?** *(Circle all that apply)*

    01 Commercial—accepts waste from the general public
    02 Accepts waste from a limited number of facilities not under same ownership
    03 Manages waste generated onsite
    04 Accepts waste from offsite facilities under same ownership
    05 Plans to become commercial before January 1992

29. **Did this facility store contained hazardous waste gas onsite during 1986?** *(Circle one)*

    01 Yes
    02 No

30. **Did this facility treat contained hazardous waste gas onsite during 1986?** *(Circle one)*

    Open burning, detonation, and flaring are considered treatment for this questionnaire.

    01 Yes *(Go to next question)*
    02 No *(Skip to Question 35)*

31. **How was this contained hazardous waste gas treated onsite during 1986?** *(Circle all that apply)*

    01 Chemically treated
    02 Thermally treated, including flaring
    03 Catalytically oxidized
    04 Other _____
    (specify)

32. What quantity of contained hazardous waste gas was TREATED onsite during 1986?

Report here the total quantity of contained hazardous waste gas (at standard temperature and pressure [STP]) that entered one or more of this facility's treatment units during 1986. COUNT ONLY ONCE any quantity of contained hazardous waste gas that entered more than one unit. Gaseous material that was treated more than once should be COUNTED ONLY ONCE.

Quantity of CONTAINED HAZARDOUS WASTE GAS TREATED Onsite	*Enter the quantity and circle a unit of measure.*
Quantity (at STP)	Unit of measure *(Circle one)* ft^3 m^3 Other _____ *(specify)*
☐☐☐☐☐☐☐☐	.. 01 .... 02 ..... 03 .....

33. What is the maximum quantity of contained hazardous waste gas that could have been TREATED onsite during 1986?

Assume NO CHANGE IN YOUR EQUIPMENT and an unlimited supply of contained hazardous waste gas. In addition, consider the number of hours per day and days per year the treatment process can operate due to necessary downtime for maintenance and other factors such as other processes that may use the same equipment. Also, consider the number of hours or shifts this facility would/could operate.

Maximum Quantity of CONTAINED HAZARDOUS WASTE GAS That COULD HAVE BEEN TREATED	*Enter the quantity and circle a unit of measure.*
Maximum quantity (at STP)	Unit of measure *(Circle one)* ft^3 m^3 Other _____ *(specify)*
☐☐☐☐☐☐☐☐	.. 01 .... 02 ..... 03 .....

34. When does this facility expect to stop TREATING contained hazardous waste gas? *(Circle one)*

01 1987
02 1988
03 1989-1990
04 After 1990
05 Don't know

HIGHLY REACTIVE MATERIAL

35. **Did this facility manage highly reactive material (e.g, explosives, shock-sensitive, or water-reactive materials) onsite during 1986 that was classified as a RCRA reactive waste (D003)?** *(Circle one)*
(01) Yes *(Go to next question)*
02 No *(Skip to Question 43)*

36. **What is the status of this facility's RCRA highly reactive material management operations?** *(Circle all that apply)*
01 Commercial—accepts waste from the general public
02 Accepts waste from a limited number of facilities not under same ownership
(03) Manages waste generated onsite
04 Accepts waste from offsite facilities under same ownership
05 Plans to become commercial before January 1992

37. **Did this facility store highly reactive material onsite during 1986?** *(Circle one)*
(01) Yes
02 No

38. **Did this facility treat highly reactive material onsite during 1986?** *(Circle one)*
Open burning, detonation, and flaring are considered treatment for this questionnaire.
01 Yes *(Go to next question)*
(02) No *(Skip to Question 43)*

39. **How was this highly reactive material treated onsite during 1986?** *(Circle all that apply)*
01 Chemically treated
02 Incinerated
03 Open detonation/open burning
04 Other _____
(specify)

40. What quantity of highly reactive material was TREATED onsite during 1986?

Report here the TOTAL quantity of highly reactive material that entered one or more of this facility's treatment units during 1986. COUNT ONLY ONCE any quantity of this material that entered more than one unit. Highly reactive material that was treated more than once should be COUNTED ONLY ONCE.

Quantity of HIGHLY REACTIVE Material TREATED Onsite	*Enter the quantity and circle a unit of measure.*	
	Unit of measure *(Circle one)*	
Quantity	Ton	Gallon
☐☐☐☐☐☐☐☐	 01	..... 02 .....

41. What is the maximum quantity of highly reactive material that could have been TREATED onsite during 1986?

Assume NO CHANGE IN YOUR EQUIPMENT and an unlimited supply of highly reactive material. In addition, consider the number of hours per day and days per year the treatment process can operate due to necessary downtime for maintenance and other factors such as other processes that may use the same equipment. Also, consider the number of hours or shifts this facility would/could operate.

Maximum Quantity of HIGHLY REACTIVE Material That COULD HAVE BEEN TREATED Onsite	*Enter the quantity and circle a unit of measure.*	
	Unit of measure *(Circle one)*	
Maximum quantity	Ton	Gallon
☐☐☐☐☐☐☐☐	 01	..... 02 .....

42. When does this facility expect to stop TREATING highly reactive material onsite? *(Circle one)*

01 1987
02 1988
03 1989-1990
04 After 1990
05 Don't know

43. Does this facility manage RCRA reactive waste (D003) that IS NOT a cyanide or a highly reactive material (e.g., explosives, shock-sensitive, or water-reactive)? *(Circle one)*

01 Yes _____ *(specify waste type)*
(02) No

RADIOACTIVE MIXED WASTE

RADIOACTIVE MIXED WASTE is waste that contains both hazardous waste subject to RCRA and radioactive waste subject to the Atomic Energy Act.

44. Did this facility manage radioactive mixed waste onsite during 1986 that was classified as RCRA hazardous waste? *(Circle one)*

01 Yes *(Go to next question)*
(02) No *(Skip to note at top of page 22 prior to Question 52)*

45. What is the status of this facility's RCRA radioactive mixed waste management operations? *(Circle all that apply)*

01 Commercial—accepts waste from the general public
02 Accepts waste from a limited number of facilities not under same ownership
03 Manages waste generated onsite
04 Accepts waste from offsite facilities under same ownership
05 Plans to become commercial before January 1992

46. Did this facility store radioactive mixed waste onsite during 1986? *(Circle one)*

01 Yes
02 No

47. Did this facility dispose of radioactive mixed waste onsite during 1986? *(Circle one)*

01 Yes
02 No

48. Did this facility treat radioactive mixed waste onsite during 1986? *(Circle one)*

01 Yes *(Go to next question)*
02 No *(Skip to note at top of page 22 prior to Question 52)*

49. What quantity of radioactive mixed waste was TREATED onsite during 1986?

Report here the TOTAL quantity of radioactive mixed waste that entered one or more of this facility's treatment units during 1986. COUNT ONLY ONCE any quantity of waste that entered more than one unit. Radioactive mixed waste that was treated more than once should be COUNTED ONLY ONCE.

Quantity of RADIOACTIVE MIXED Waste TREATED Onsite	*Enter the quantity and circle a unit of measure.*	
	Unit of measure *(Circle one)*	
Quantity	Ton	Gallon
☐☐☐☐☐☐☐☐	 01	..... 02 .....

50. What is the maximum quantity of radioactive mixed waste that could have been TREATED onsite during 1986?

Assume NO CHANGE IN YOUR EQUIPMENT and an unlimited supply of radioactive mixed waste. In addition, consider the number of hours per day and days per year the treatment process can operate due to necessary downtime for maintenance and other factors such as other processes that may use the same equipment. Also, consider the number of hours or shifts this facility would/could operate.

Maximum Quantity of RADIOACTIVE MIXED Waste That COULD HAVE BEEN TREATED Onsite	*Enter the quantity and circle a unit of measure.*	
	Unit of measure *(Circle one)*	
Maximum quantity	Ton	Gallon
☐☐☐☐☐☐☐☐	 01	..... 02 .....

51. When does this facility expect to stop TREATING radioactive mixed waste? *(Circle one)*

01 1987
02 1988
03 1989-1990
04 After 1990
05 Don't know

ACCUMULATION IN CONTAINERS HELD IN AREAS REGULATED UNDER THE 90-DAY RULE

NOTE: Hazardous waste accumulated in containers (stored under the 90-day rule) must:

- Have been **generated onsite.**
- Be held for periods of **90 days or less.**

Polychlorinated biphenyls (PCBs), which are regulated under the Toxic Substances Control Act (TSCA), may be accumulated onsite for up to *1 year;* however, treat this special 1-year accumulation period as if it were the same as the 90-day accumulation period used for RCRA hazardous waste.

52. **Does this facility accumulate hazardous waste onsite in drums or containers in areas that are regulated under the 90-day rule and do not have a RCRA permit or interim status?** *(Circle one)*

(01) Yes *(Go to next question)*
02 No *(Skip to Question 54)*

53. **Complete the following table for accumulation of hazardous waste in containers held in areas onsite that are regulated under the 90-day rule and do not have a RCRA permit or interim status.**

Accumulation of Hazardous Waste in Containers Held in Areas Onsite That Are Regulated Under the 90-Day Rule and Do Not Have a RCRA Permit or Interim Status	*Enter the quantities and where appropriate circle a unit of measure. If none, enter zero. Sum information, where necessary, for multiple container accumulation areas.*	
Question	**Quantity**	**Unit of measure** *(Circle one)* **Ton Gal**
a. Total quantity of hazardous waste entering areas onsite that do not have a RCRA permit or interim status for accumulation during 1986	114	(01) 02
b. Typical quantity of hazardous waste at any given time in accumulation areas onsite that do not have a RCRA permit or interim status	3	(01) 02
c. Typical residence time	45 days	
d. Percentage of hazardous waste in "a" that was later held in a RCRA permitted or interim status storage area onsite	75 %	

STORAGE OR ACCUMULATION IN CONTAINERS HELD IN RCRA PERMITTED OR INTERIM STATUS STORAGE AREAS

54. **Does this facility store, or accumulate hazardous waste onsite in drums or containers in areas that have a RCRA permit or interim status?** *(Circle one)*

(01) Yes *(Go to next question)*
02 No *(Skip to Question 56)*

55. Complete the following table on the storage or accumulation of hazardous waste in containers held in RCRA permitted or interim status storage areas onsite.

Storage or Accumulation of Hazardous Waste in Containers Held in RCRA Permitted or Interim Status Storage Areas Onsite	*Enter the quantities and where appropriate circle a unit of measure. If none, enter zero. Sum information, where necessary, for multiple container storage areas.*	
Question	**Quantity**	**Unit of measure** *(Circle one)* **Ton / Gal**
a. Number of RCRA permitted or interim status storage areas onsite	3	
b. Total design capacity of all RCRA permitted or interim status storage areas onsite	150	(01) Ton / 02 Gal
c. Total quantity of hazardous waste in containers entering RCRA permitted or interim status storage areas onsite during 1986	88	(01) Ton / 02 Gal
d. Typical quantity of hazardous waste in RCRA permitted or interim status storage areas at any given time	50	(01) Ton / 02 Gal
e. Typical residence time	365 days	
f. Maximum residence time	999 days	
g. Percentage of hazardous waste reported in "c" that was generated onsite and held less than 90 days	3 %	
h. Typical residence time for this hazardous waste quantity reported in "g"	60 days	

56. Did this facility fill containers with hazardous waste onsite during 1986? *(Circle one)*

(01) Yes *(Go to next question)*
02 No *(Skip to Question 58)*

57. What methods were used to fill containers with hazardous waste onsite during 1986?

Methods Used to Fill Containers Onsite	*Enter the percentage of all containers that were filled during 1986 by the methods listed below. If none, enter zero.*
Method	**Percentage**
a. Splash or pour-fill—fill pipe opening is above the surface of the waste in the container	0 %
b. Submerged fill—fill pipe opening is submerged in the waste in the container	0 %
c. All other (including the filling of containers with solids)	100 %
Total (a + b + c) =	100%

OTHER PERMITS

58. **Does this facility have a National Pollutant Discharge Elimination System (NPDES) permit?** *(Circle one)*

01 Yes *(Specify permit number)* [ ]

(02) No *(Skip to Question 60)*

59. **What quantity of wastewater, resulting from only those processes that generated or managed hazardous waste, was discharged under your NPDES permit during 1986?**

Quantity of Wastewater Discharged Under NPDES Permit	*Enter the quantity and circle a unit of measure.*	
	Unit of measure *(Circle one)*	
Quantity	Ton	Gallon
	01	02

60. **Does this facility discharge wastewater to a publicly owned treatment works (POTW)?** *(Circle one)*

(01) Yes *(Go to next question)*

02 No *(Skip to Question 63)*

61. **What is the name and location of this POTW?**

a. Name: CRAB ORCHARD REFUGE TREATMENT PLANT

b. Location: CARTERVILLE (City) IL (State)

62. **What quantity of wastewater, resulting from only those processes that generated or managed hazardous waste, was discharged to this POTW during 1986?**

Quantity of Wastewater Discharged to POTW	*Enter the quantity and circle a unit of measure.*	
	Unit of measure *(Circle one)*	
Quantity	Ton	Gallon
0	01	02

63. In order to develop hazardous waste regulations over the next few years, EPA needs to understand the flow of waste within facilities that manage hazardous waste. This and the other questionnaires used in this survey ask important questions about the individual hazardous waste management operations onsite at this facility. In order for us to see how these operations relate to one another, complete (1) a general facility-wide schematic or flow diagram showing the hazardous waste management activities and operations this facility has and how they relate to one another; and (2) detailed schematics (as many as necessary) of the treatment and recycling operations identified in the general facility-wide schematic, showing how individual units within the systems (for example, tanks, surface impoundments, incinerators, boilers) and the processes that occur in them relate to one another.

Prior to completing the schematics, assign a number to EACH hazardous waste tank and surface impoundment onsite at this facility. Include only tanks or surface impoundments that are used for the management of hazardous waste. The tanks and surface impoundments should be numbered sequentially starting with number 1 (for example, tanks 1 through 25 and surface impoundments 1 through 6). These tank and surface impoundment numbers will be used throughout the questionnaires in this survey to identify which tanks and/or surface impoundments are used with a particular process.

Refer to Appendix A of the Instructions booklet when completing the schematics for a list of treatment, recovery, accumulation, storage, and disposal process codes and Air Pollution Control Device (APCD) codes.

You may find it easier to modify existing diagrams in response to this question. If you do so, be sure to label all processes and number all tanks and surface impoundments. Attach all schematics to Questionnaire A. (See Figures 1, 2, and 3 for examples of how to draw, label, and organize your schematics.) Be sure the people completing the questionnaires have a copy of the appropriate schematics.

GENERAL FACILITY-WIDE SCHEMATIC

1. Draw a box for each of the hazardous waste treatment, storage, accumulation, disposal, and recovery operations that are currently operating or that are temporarily not operating onsite. Label each box with a simple description of the type of operation (for example, "accumulation in containers", "disposal in landfill", "wastewater treatment system"). NOTE that more detailed descriptions of treatment and recycling operations showing the types of processes and the individual units in which they occur (e.g., tanks, surface impoundments, incinerators, boilers) will be required in the detailed schematics.

   Include a box to indicate any close-loop recycling systems or totally enclosed treatment units that are present at this facility. However, you need not describe them in detail and you should not report them anywhere else in this survey.

   Operations that are **currently operating** are those that are currently being used onsite to manage hazardous waste. Operations that are **temporarily not operating** are those that have been used onsite in the past to manage hazardous waste AND that will be used onsite in the future to manage hazardous waste.

2. Identify where waste, including treatment residuals, enters or exits an operation by drawing and labeling arrows leading to and from it. Indicate whether waste entering/exiting an operation is hazardous or nonhazardous by writing HW or NHW.

3. Indicate where hazardous waste enters your facility from offsite. Also indicate the point at which residuals that are not managed onsite are sent offsite.

4. General schematics must identify every treatment and recycling operation that is broken down further in the detailed schematics (if detailed schematics are necessary to adequately show all onsite treatment or recycling operations).

DETAILED SCHEMATIC(S)

Complete a detailed schematic for EACH treatment or recycling operation identified in the general facility-wide schematic, showing the types of processes used and any tanks and surface impoundments in which these processes occur. Use a separate page for each schematic.

1. Draw a box for each individual unit of the hazardous waste treatment or recycling operation that is currently operating or temporarily not operating onsite. Show all processes occurring in units onsite that are listed in Appendix A of the Instructions booklet. To label each box, use either the name of the process or the process code.
2. Every hazardous waste treatment or recycling process identified in the detailed schematics should be reported in at least one of the Questionnaires B through I. It is critical that all entries on the detailed schematics are consistent with answers that you provide to the questions in Questionnaires B through O.
3. For each process that uses tanks or surface impoundments, enter "tank" or "surface impoundment" and the identification number (assigned by you for this survey) in the box. This is necessary so that we can see how the individual units used for these processes relate to one another. If more than one tank or surface impoundment is used for a process, simply write the range of numbers as "Tanks 13-15" or "Surface Impoundments 1-3." If the same tank or surface impoundment is used for more than one process, repeat the tank number or surface impoundment number for each process in which it is used. It is critical for our analysis that tank and surface impoundment numbers appear on the detailed schematics and that they agree with the numbers identified in the questionnaires.
4. Use arrows with labels to show where reagents or chemical additives enter a process.
5. Identify where waste, including treatment residuals, enters or exits a process by drawing and labeling arrows leading to and from it. INDICATE whether waste entering and/or exiting a process is hazardous or nonhazardous by writing HW or NHW. Wherever possible, identify the wastes in general terms in parentheses—for example, " HW (dewatered sludge)".
6. Indicate where hazardous waste enters your facility from offsite. Also indicate the point at which residuals that are not managed onsite are sent offsite.
7. Indicate where wastes originated, including if they came from a system described in another detailed schematic (for example, "from wastewater treatment system #2, tank #9 effluent").
8. Indicate locations to which system discharges are routed, including routings to other detailed schematics (for example, "to incineration system," or "to wastewater treatment system #2). DO NOT INDICATE that a system discharge goes, for example, "to process 43WT," if there is more than one process "43WT," unless you state which "43WT" (for example, "to process 43WT, surface impoundment #4").
9. Indicate all Air Pollution Control Devices (APCDs) using the list of codes provided in Appendix A of the Instructions booklet.

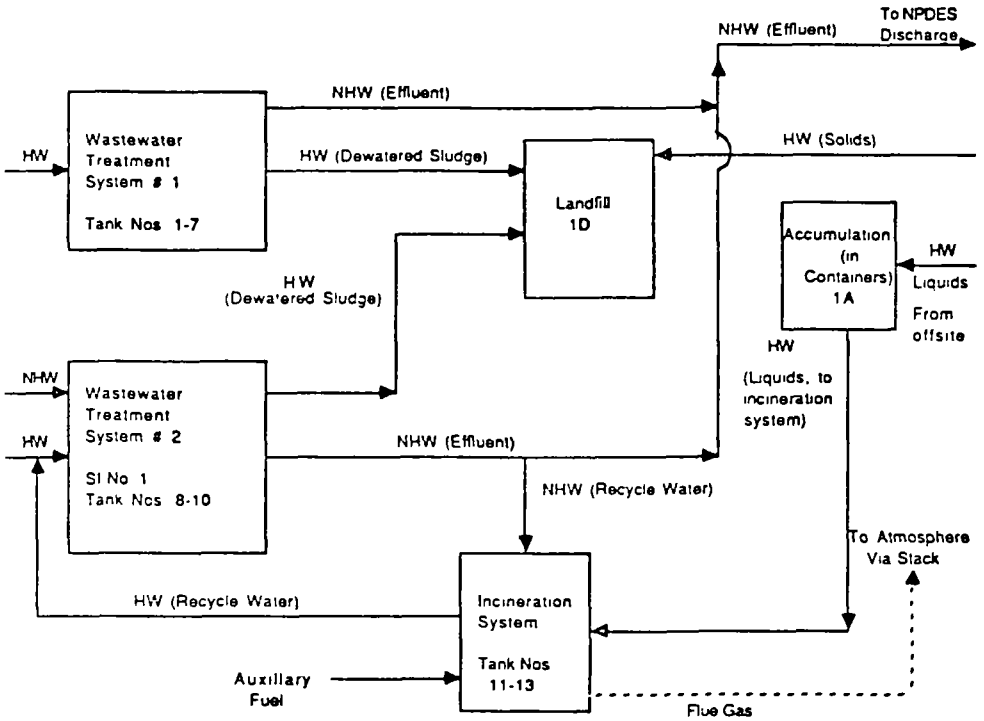


Figure 1. Example of a facility schematic showing all hazardous waste management operations at a facility. (see Figures 2 and 3 for detailed schematics of the wastewater treatment systems and the incinerator system.)

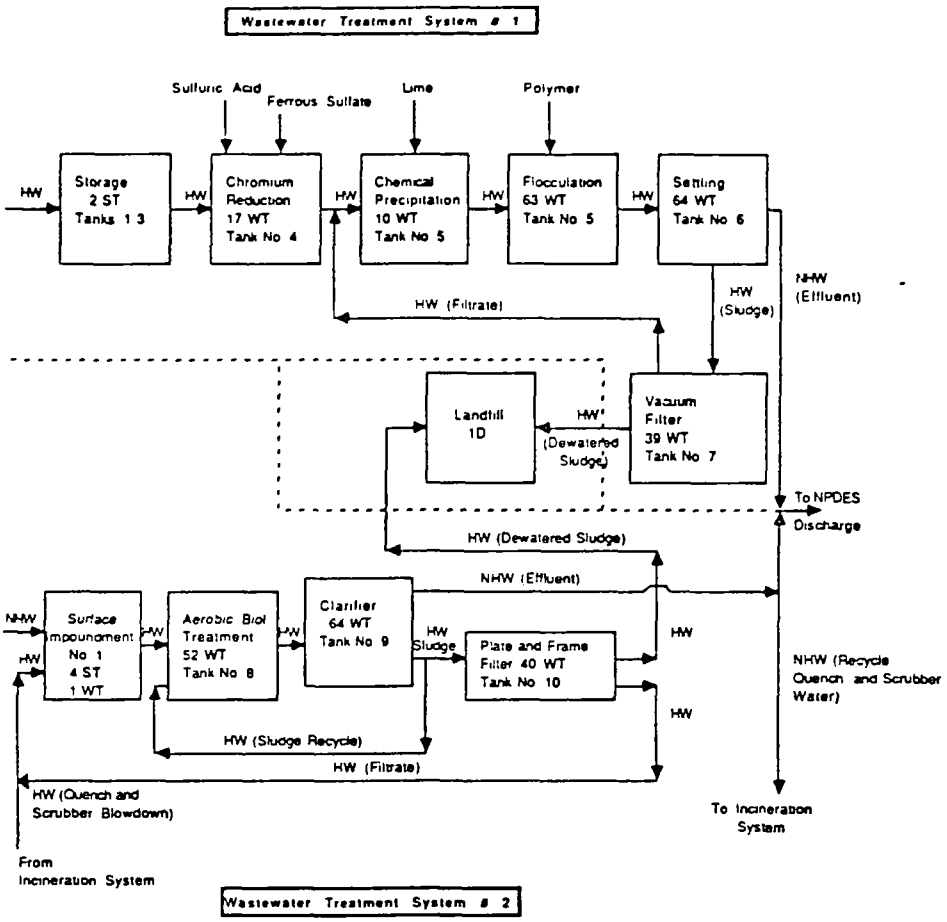


Figure 2. Example of a detailed schematic of two wastewater treatment systems.

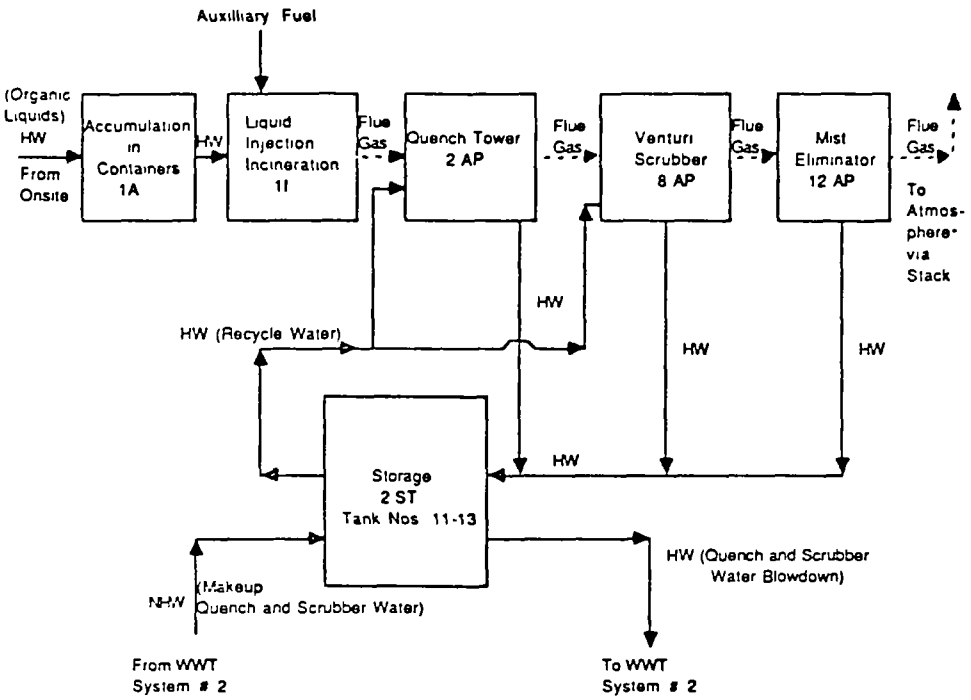
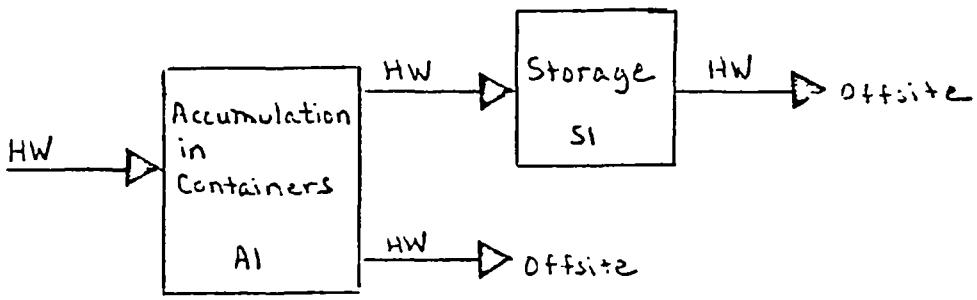


Figure 3. Example of a detailed schematic of an incineration system.

NO. 63 FACILITY SCHEMATIC



64. Provide the following information for potential future survey-related contacts with this facility.

a. Is the EPA identification number of this facility the same as that given in the label on the cover of this questionnaire? *(Circle one)*

(01) Yes *(Skip to Question c)*
02 No *(Go to Question b)*

b. Enter the correct EPA identification number of this facility in the space provided below.

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

(Go to Question c)

c. Are the COMPANY NAME and MAILING ADDRESS of this facility the same as those given in the label on the cover of this questionnaire? *(Circle one)*

01 Yes *(Skip to Question e)*
(02) No *(Go to Question d)*

d. Enter the correct COMPANY NAME and MAILING ADDRESS of this facility in the space provided below.

Company name:

OLIN CORPORATION

Address:

PO BOX 278

City: MARION State: IL ZIP: 62959 –

e. What is the name, title, and telephone number of the person who completed this questionnaire?

Name:

JEAN SCHNEIDERMAN

Title:

REGULATORY COMPLIANCE SUPERVISOR

Telephone:

618 (Area Code) 9858211

(Go to Question b)

f. Is YOUR MAILING ADDRESS the same as the address given in the label on the cover of this questionnaire? *(Circle one)*

"Mailing address" refers to the address at which you can be reached for future survey-related contacts.

01 Yes *(Skip to note on next page)*
(02) No *(Go to Question g)*

g. At what MAILING ADDRESS can you be contacted for future survey-related information?

Mailing address:

OLIN CORPORATION PO BOX 278

City: MARION State: IL ZIP: 62959 –

(Go to note at bottom of page)

NOTE: *You have now completed this questionnaire. If you have also completed all the other questionnaires mailed to you with this one, MAKE A PHOTOCOPY OF THEM FOR YOUR RECORDS and send the originals to the following address using the enclosed postage-paid return envelope:*

U.S. Environmental Protection Agency
MD 99-RTI
Research Triangle Park, NC 27711

If you have not completed all the questionnaires mailed to you, go to the next questionnaire. If you have any questions about this or the other questionnaires used in this survey, call the Survey Helpline (1-800-635-8850).

FACILITY NOTES

Question Number(s)	Notes, comments, etc.

FACILITY NOTES

Question Number(s)	Notes, comments, etc.

QUESTIONNAIRE A	GENERAL FACILITY INFORMATION

EPA Use Only ☐

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WINCHESTER

FROM THE DESK OF

JEAN SCHNEIDERMAN

Date: 1/29/89

To: FOR THE FILE

COPY A HEINZ
T. WISELY

RE ORDILL HW GEN SURVEY

THE ENCLOSED WAS MAILED TODAY IN THE PROVIDED ENVELOPE

J. Schneiderman

Olin
ORDNANCE

MARION OPERATIONS

29 January 1988

U.S. Environmental Protection Agency
MD 99-RTI
Research Triangle Park, N.C. 27711

ATTENTION: Ms. Marcia Williams, Director
Office of Solid Waste

REFERENCE: National Survey of Hazardous Waste Generators
IL8143609487 Olin Corporation

Dear Ms. Williams:

Per your request, enclosed please find the completed national survey, questionnaires GA and GB for Olin Corporation's facility with the USEPA ID # IL8143609487.

If further information or clarification is required, please advise in writing to the undersigned.

Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AHJ/kc

Encl. 1) Questionnaire GA: General Facility Information
2) Questionnaire GB: Hazardous Waste Characterization

OMB No. 2050-0075
Expires November 1989

EPA

National Survey of Hazardous Waste Generators

QUESTIONNAIRE GA

GENERAL FACILITY INFORMATION

RTI ID: 016162 G-GA 1 of 1
EPA ID: IL8143609487

OLIN CORP
ORDILL INDUSTRIAL AREA
MARION IL 62959

TSDR P1

NOTE: ALL FACILITIES NEED TO COMPLETE THIS QUESTIONNAIRE.

003415

WASTE DESCRIPTION CODES

These waste description codes were developed specifically for this survey to supplement the descriptions listed with the RCRA and other waste codes. (These waste description codes are not regulatory definitions.)

WASTE DESCRIPTION CODES FOR HAZARDOUS WASTE DESCRIBED BY A SINGLE RCRA F, K, P, OR U WASTE CODE

A01 Spent solvent (F001-F005, K086)
A02 Other organic liquid (F001-F005, K086)
A03 Still bottom (F001-F005, K086)
A04 Other organic sludge (F001-F005, K086)
A05 Wastewater or aqueous mixture
A06 Contaminated soil or cleanup residue
A07 Other F or K waste, exactly as described*
A08 Concentrated off-spec or discarded product
A09 Empty containers
A10 Incinerator ash
A11 Solidified treatment residue
A12 Other treatment residue (specify in the answer space provided)
A13 Other untreated waste (specify in the answer space provided)

*"Exactly as described" means that the waste matches the description of the RCRA waste code

WASTE DESCRIPTION CODES FOR HAZARDOUS WASTE DESCRIBED BY A SINGLE RCRA D OR X WASTE CODE* OR THAT DESCRIBED BY MORE THAN ONE RCRA OR X WASTE CODE

INORGANIC LIQUIDS—*Waste that is primarily* inorganic and highly fluid (e g , aqueous), with low suspended inorganic solids and low organic content.

B01 Aqueous waste with low solvents
B02 Aqueous waste with low other toxic organics
B03 Spent acid with metals
B04 Spent acid without metals
B05 Acidic aqueous waste
B06 Caustic solution with metals but no cyanides
B07 Caustic solution with metals and cyanides
B08 Caustic solution with cyanides but no metals
B09 Spent caustic
B10 Caustic aqueous waste
B11 Aqueous waste with reactive sulfides
B12 Aqueous waste with other reactives (e g , explosives)
B13 Other aqueous waste with high dissolved solids
B14 Other aqueous waste with low dissolved solids
B15 Scrubber water
B16 Leachate
B17 Waste liquid mercury
B18 Other inorganic liquid (specify in the answer space provided)

INORGANIC SLUDGES—Waste that is primarily inorganic, with moderate-to-high water content and low organic content; pumpable

B19 Lime sludge without metals
B20 Lime sludge with metals/metal hydroxide sludge
B21 *Wastewater treatment sludge with toxic* organics
B22 Other wastewater treatment sludge
B23 Untreated plating sludge without cyanides
B24 Untreated plating sludge with cyanides
B25 Other sludge with cyanides
B26 Sludge with reactive sulfides
B27 Sludge with other reactives
B28 Degreasing sludge with metal scale or filings
B29 Air pollution control device sludge (e g., fly ash, wet scrubber sludge)
B30 Sediment or lagoon dragout contaminated with organics
B31 Sediment or lagoon dragout contaminated with inorganics only
B32 Drilling mud
B33 *Asbestos slurry or sludge*
B34 Chloride or other brine sludge
B35 Other inorganic sludge (specify in the answer space provided)

INORGANIC SOLIDS—Waste that is primarily inorganic and solid, with low organic content and low-to-moderate water content, not pumpable.

B36 Soil contaminated with organics
B37 Soil contaminated with inorganics only
B38 Ash, slag, or other residue from incineration of wastes
B39 Other "dry" ash, slag, or thermal residue
B40 "Dry" lime or metal hydroxide solids chemically "fixed"
B41 "Dry" lime or metal hydroxide solids not "fixed"
B42 Metal scale, filings, or scrap
B43 Empty or crushed metal drums or containers
B44 Batteries or battery parts, casings, cores
B45 Spent solid filters or adsorbents
B46 Asbestos solids and debris
B47 Metal-cyanide salts/chemicals
B48 *Reactive cyanide salts/chemicals*
B49 Reactive sulfide salts/chemicals
B50 Other reactive salts/chemicals
B51 Other metal salts/chemicals
B52 Other waste inorganic chemicals
B53 Lab packs of old chemicals only
B54 Lab packs of debris only
B55 Mixed lab packs
B56 Other inorganic solids (specify in the answer space provided)

INORGANIC GASES—Waste that is primarily inorganic with a low organic content and is a gas at atmospheric pressure.

B57 Inorganic gases

ORGANIC LIQUIDS—*Waste that is primarily* organic and is highly fluid, with low inorganic solids content and low-to-moderate water content.

B58 Concentrated solvent-water solution
B59 Halogenated (e g., chlorinated) solvent
B60 Nonhalogenated solvent
B61 Halogenated/nonhalogenated solvent mixture
B62 Oil-water emulsion or mixture
B63 *Waste oil*
B64 Concentrated aqueous solution of other organics
B65 Concentrated phenolics
B66 Organic paint, ink, lacquer, or varnish
B67 Adhesives or expoxies
B68 Paint thinner or petroleum distillates
B69 Reactive or polymerizable organic liquid
B70 Other organic liquid (specify in the answer space provided)

ORGANIC SLUDGES—Waste that is primarily organic, with low-to-moderate inorganic solids content and water content; pumpable

B71 Still bottoms of halogenated (e g., chlorinated) solvents or other organic liquids
B72 Still bottoms of nonhalogenated solvents or other organic liquids
B73 Oily sludge
B74 Organic paint or ink sludge
B75 Reactive or polymerizable organics
B76 Resins, tars, or tarry sludge
B77 Biological treatment sludge
B78 *Sewage or other untreated biological* sludge
B79 Other organic sludge (specify in the answer space provided)

ORGANIC SOLIDS—Waste that is primarily organic and solid, with low-to-moderate inorganic content and water content; not pumpable.

B80 Halogenated pesticide solid
B81 Nonhalogenated pesticide solid
B82 Solid resins or polymerized organics
B83 Spent carbon
B84 Reactive organic solid
B85 Empty fiber or plastic containers
B86 Lab packs of old chemicals only
B87 Lab packs of debris only
B88 Mixed lab packs
B89 Other halogenated organic solid (specify in the answer space provided)
B90 *Other nonhalogenated organic solid* (specify in the answer space provided)

ORGANIC GASES—Waste that is primarily organic with low-to-moderate inorganic content and is a gas at atmospheric pressure.

B91 Organic gases

*A list of X waste codes was developed specifically for this survey. These X codes are not official RCRA waste codes and should be used only for this survey

Read the Instructions booklet **BEFORE** you answer this questionnaire. The Instructions contain example questions, lists of RCRA and other waste codes, and other important information you will need to consult as you complete the questions.

This questionnaire asks for general information about the hazardous waste generation operations at this facility:

- Facility identification, ownership, operator, and contact information.
- Quantities for special types of hazardous waste generated—contained gaseous material, highly reactive material, and radioactive mixed waste.
- Quantities discharged under a NPDES permit or discharged to a POTW.
- Description of hazardous waste minimization procedures and the effect these procedures have had on the quantity and toxicity of hazardous waste generated.
- Hydrogeologic and exposure information.
- Quantities and status information for Solid Waste Management Units (SWMUs).
- Closure of surface impoundments and waste piles.
- Accumulation of hazardous waste in containers.
- A general facility-wide schematic and detailed schematics showing all hazardous waste management operations.

If you wish to clarify or explain any answers you give, use the two lined pages labeled "FACILITY NOTES" at the end of this questionnaire. Beside each question you wish to clarify or explain, write "see note." Then turn to the note pages, enter the question number, and write your comments beside that number. If a single note applies to more than one question, write the numbers of all the questions the note applies to.

If you need more answer spaces or have any questions about this survey or this questionnaire, call the Survey Helpline (1-800-635-8850).

For this survey, report all waste in the following categories as hazardous waste:

- Any waste considered hazardous waste under RCRA. This includes hazardous wastewater pretreated prior to discharge under a National Pollutant Discharge Elimination System (NPDES) permit or prior to discharge to a publicly owned treatment works (POTW); hazardous waste generated in a production process or waste treatment process; and hazardous waste that is a characteristic waste, even though it may lose its hazardous waste characteristic through mixing with other wastewater or by treatment.
- Any waste considered hazardous by your state.
- Wastes containing polychlorinated biphenyls (PCBs).
- Wastes containing asbestos.
- Wastes containing dioxins/furans.
- Radioactive waste mixed with hazardous waste.

For this survey, ***facility*** is defined as the site at which hazardous waste is generated.

1. **Which of the following BEST DESCRIBES the status of the "hazardous waste generation activities" onsite at this facility?** *(Circle one)*

   Carefully read all options and circle only one Do not base your answer on the quantity of hazardous waste generated onsite Call the Survey Helpline (1-800-635-8850) if you are uncertain of the status of your facility

   (01) Hazardous waste is currently generated onsite. *(Go to next question)*

   02 Hazardous waste was generated onsite during 1986, but is no longer generated onsite. *(Go to next question)*

   03 Hazardous waste was generated onsite prior to 1986, but not during 1986, and will not be generated onsite in the future. *(Skip to Question 156 on page 79)*

   04 Hazardous waste was generated onsite in the past, but that hazardous waste has since been delisted and no other hazardous waste is generated onsite at this facility. *(Skip to Question 156 on page 79)*

   05 No hazardous waste has ever been generated onsite at this facility. Notification of hazardous waste generation activities was submitted as a protective measure. Further evaluation showed that the waste generated onsite is not hazardous. *(Skip to Question 156 on page 79)*

2. **Did this facility generate, in ANY month during 1986, more than 1,000 kilograms of hazardous waste?** *(Circle one)*

   (01) Yes *(Skip to Question 6)*

   02 No *(Go to next question)*

3. **Did this facility accumulate, AT ANY TIME DURING 1986, more than 1,000 kilograms of hazardous waste?** *(Circle one)*

   Do not base your answer on when the hazardous waste was generated. For example, if 600 kilograms of hazardous waste were generated in one month and 500 kilograms of hazardous waste were generated in the next month, and this total quantity was onsite at any time, you would answer "Yes."

   01 Yes *(Skip to Question 6)*

   02 No *(Go to next question)*

4. **Did this facility generate, in ANY month during 1986, more than 100 kilograms of hazardous waste?** *(Circle one)*

   01 Yes *(Skip to Question 6)*
   02 No *(Go to next question)*

5. **Did this facility generate, in ANY month during 1986, more than one kilogram of acutely hazardous waste?** *(Circle one)*

   The following are acutely hazardous wastes: F020, F021, F022, F023, F026, F027, and all of the RCRA "P" wastes. See Appendix C of the Instructions booklet for a list of RCRA "P" wastes.

   01 Yes *(Go to next question)*
   02 No *(Skip to Question 156 on page 79. DO NOT SKIP if your facility generated, in any month during 1986, more than 100 kilograms of hazardous waste.)*

Use the list of four-digit Standard Industrial Classification (SIC) codes in Appendix B of the Instructions booklet to answer Questions 6 and 7.

6. **What is the primary four-digit SIC code for this facility?**

3	4	8	2

7. **What other four-digit SIC codes describe this facility?** *(Enter up to three SIC codes If there are no other four-digit SIC codes appropriate for this facility, enter "NA.")*

   a. | 3 | 4 | 8 | 9 | b. | | | | | c. | | | | |

8. **Who owns this facility?** *(Circle one)*

   (01) Federal government
   02 State government
   03 Local government
   04 Private owner—sole proprietor, partnership, or corporation
   05 Other owner _____ *(describe)*

9. **Who operates this facility?** *(Circle one)*

   01 Federal government
   02 State government
   03 Local government
   (04) Private operator—sole proprietor, partnership, or corporation
   05 Other operator _____ *(describe)*

10. What was the typical number of employees onsite at this facility during 1986? What operations were they typically employed in?

Count ONLY ONCE any employee who works in more than one area. If there are no employees working in an area described below, enter zero. The sum of b, c, d, and e must equal a.

Number of Employees Onsite	
Question	**Number of Employees**
a. Typical number of employees	275
b. Typical number of employees in hazardous waste management operations	15
c. Typical number of employees in the production of goods and services	100
d. Typical number of employees in management/administration (including clerical)	100
e. Typical number of employees in plant operation and maintenance, other than hazardous waste management	60
f. Typical number of contractor personnel onsite in hazardous waste management operations	0

11. What is the total land area of this facility? *(Include in your answer the total land area of the facility, NOT just the area where hazardous waste is managed.)*

245 acres

12. What are the latitude and longitude of this facility?

Latitude and Longitude of This Facility	*Enter your answer in degrees and minutes.*			
a. Latitude	37	degrees	44	minutes
b. Longitude	89	degrees	01	minutes

13. **Does this facility have a National Pollutant Discharge Elimination System (NPDES) permit?** *(Circle one)*
    01 Yes *(Go to next question)*
    (02) No *(Skip to Question 16)*

14. **What is the NPDES permit number(s) for this facility?** *(Enter your 9-digit NPDES permit number)*
    a. [ ][ ][ ][ ][ ][ ][ ][ ][ ]
    b. [ ][ ][ ][ ][ ][ ][ ][ ][ ]
    c. [ ][ ][ ][ ][ ][ ][ ][ ][ ]
    d. [ ][ ][ ][ ][ ][ ][ ][ ][ ]

15. **What quantity of wastewater, RESULTING FROM ONLY THOSE PROCESSES THAT GENERATED OR MANAGED HAZARDOUS WASTE, was discharged under this permit during 1986?**

Quantity of Wastewater Discharged Under NPDES Permit	*Enter the quantity and circle a unit of measure Sum the quantities if this facility has more than one NPDES permit*	
Quantity	Unit of measure *(Circle one)*	
	Tons	Gallons
[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]	 01	. ... 02 ... ...

16. **Does this facility discharge wastewater to a publicly owned treatment works (POTW)?** *(Circle one)*
    (01) Yes *(Go to next question)*
    02 No *(Skip to Question 19)*

17. **What is the name and location (city and state) of this POTW?**
    a. Name: CRAB ORCHARD REFUGE TREATMENT PLANT
    b. Location: CARTERVILLE (City) IL (State)

18. What quantity of wastewater, RESULTING FROM ONLY THOSE PROCESSES THAT GENERATED OR MANAGED HAZARDOUS WASTE, was discharged to this POTW during 1986?

Quantity of Wastewater Discharged to POTW	*Enter the quantity and circle a unit of measure.*	
	Unit of measure *(Circle one)*	
Quantity	**Tons**	**Gallons**
0	01	02

19. What quantity of wastewater (both hazardous and nonhazardous) was generated onsite during 1986?

Quantity of Wastewater Generated	*Enter the quantity and circle a unit of measure, if none, enter zero*	
	Unit of measure *(Circle one)*	
Quantity	**Tons**	**Gallons**
0	01	02

20. Of the quantity reported in Question 19, estimate the amount that was hazardous wastewater. This amount should include hazardous wastewater pretreated prior to discharge under a NPDES permit or prior to discharge to a POTW; hazardous wastewater generated in a production process or waste treatment process; and hazardous wastewater that is a characteristic waste, even though it may lose its hazardous waste characteristic through mixing with other wastewater or by treatment.

Include in your answer the total quantity of wastewater, not just the quantity of hazardous material in the wastewater

Quantity of HAZARDOUS Wastewater Generated	*Enter the quantity and circle a unit of measure, if none, enter zero*	
	Unit of measure *(Circle one)*	
Quantity	**Tons**	**Gallons**
0	01	02

NOTE: *Report all hazardous wastewater in Questionnaire GB, "Hazardous Waste Characterization" Report any processes used to treat hazardous wastewater, including pretreatment processes, in Questionnaire GE, "Wastewater Treatment."*

21. Does this facility send hazardous waste to offsite facilities UNDER THE SAME OWNERSHIP or parent ownership? *(Circle one)*

(01) Yes *(Go to next question)*

02 No *(Skip to Question 23)*

22. What facilities UNDER THE SAME OWNERSHIP or parent ownership does this facility send hazardous waste to?

Enter the name, EPA identification number, and the location (city and state) for each. Call the Survey Helpline (1-800-635-8850) if you need additional answer spaces.

a. Facility 1

i. Name: OLIN CORPORATION

ii. EPA ID number: ILD000802801

iii. Location: MARION (City) IL (State)

b. Facility 2

i. Name:

ii. EPA ID number:

iii. Location: (City) (State)

c. Facility 3

i. Name:

ii. EPA ID number:

iii. Location: (City) (State)

d. Facility 4

i. Name:

ii. EPA ID number:

iii. Location: (City) (State)

23. What quantity of hazardous waste was shipped offsite during 1986 to be managed by another facility under the same ownership? What quantity of hazardous waste was shipped offsite during 1986 to be managed by a facility NOT under the same ownership?

Quantity of Hazardous Waste Shipped Offsite	*Enter waste quantities that need to be reported in tons in row a and waste quantities that need to be reported in gallons in row b. If none, enter zero*	
Quantity shipped offsite to a facility under the same ownership	**Quantity shipped offsite to a facility NOT under the same ownership**	**Unit of measure**
a.	1	Tons
b. 14456	1045	Gallons

24. Does this facility have any plans before January 1992 to start managing its hazardous waste onsite rather than shipping it offsite for treatment, storage, disposal, or recycling? *(Circle one)*

01 Yes
(02) No
03 All hazardous waste is currently managed onsite

25. Is the waste (both hazardous and nonhazardous) that is generated onsite tested (i.e., samples are taken for analysis)? *(Circle one)*

(01) Yes *(Go to next question)*
02 No *(Skip to Question 27)*

26. Why does this facility test the waste that is generated onsite? *(Circle all that apply)*

(01) To determine the constituents present and their concentration
(02) To determine if the waste is a hazardous waste
03 Other _____
(specify)

HAZARDOUS WASTE GENERATION

27. What quantity of hazardous waste was generated onsite during 1986?

Report here the TOTAL quantity of hazardous waste that was generated onsite during 1986. Include in your answer hazardous waste and hazardous wastewater treated using exempt processes, for example, wastewater treatment processes that discharge under a NPDES permit or discharge to a POTW and exempt recycling processes

Quantity of Hazardous Waste Generated Onsite	*Enter waste quantities that need to be reported in tons in row a and waste quantities that need to be reported in gallons in row b The sum of the two quantities reported in this question equal the TOTAL quantity of hazardous waste generated onsite during 1986*	
	Quantity	**Unit of measure**
a.	112	Tons
b.	1045	Gallons

28. Did this facility generate contained gaseous material onsite during 1986 that was classified as hazardous waste? *(Circle one)*

01 Yes *(Go to next question)*
(02) No *(Skip to Question 31)*

29. What quantity of contained gaseous material that was classified as hazardous waste was generated onsite during 1986?

STP is standard temperature and pressure, one atmosphere, and 77 degrees Fahrenheit.

Quantity of HAZARDOUS CONTAINED GASEOUS MATERIAL Generated Onsite	*Enter the quantity and circle a unit of measure.*
	Unit of measure *(Circle one)*
Quantity (at STP)	**ft³** **m³** **Other** _____ *(specify)*
	01 02 03

30. How was this hazardous contained gaseous material managed? *(Circle all that apply)*

01 Stored onsite
02 Chemically treated onsite
03 Thermally treated (including flaring) onsite
04 Catalytically oxidized onsite
05 Other onsite management _____ *(specify)*
06 Sent offsite for management

31. **Did this facility generate highly reactive material (e.g, explosive, shock-sensitive, or water-reactive materials, excluding cyanides and sulfides) onsite during 1986 that was classified as a RCRA reactive waste (D003)?** *(Circle one)*

(01) Yes *(Go to next question)*
02 No *(Skip to Question 34)*

32. **What quantity of highly reactive material was generated onsite during 1986?**

Quantity of HIGHLY REACTIVE Material Generated Onsite	*Enter the quantity and circle a unit of measure.*	
	Unit of measure *(Circle one)*	
Quantity	**Tons**	**Gallons**
46	(01)	02

33. **How was this highly reactive material managed?** *(Circle all that apply)*

(01) Stored onsite
02 Chemically treated onsite
03 Incinerated onsite
04 Open detonation/open burning onsite
05 Other onsite management _____ *(specify)*
(06) Sent offsite for management

34. Did this facility generate radioactive mixed waste onsite during 1986 that was classified as RCRA hazardous waste? *(Circle one)*

RADIOACTIVE MIXED WASTE is waste that contains both hazardous waste subject to RCRA and radioactive waste subject to the Atomic Energy Act.

01 Yes *(Go to next question)*
(02) No *(Skip to page 12)*

35. What quantity of radioactive mixed waste was generated onsite during 1986?

Quantity of RADIOACTIVE MIXED Waste Generated Onsite	*Enter the quantity and circle a unit of measure.*	
	Unit of measure *(Circle one)*	
Quantity	**Tons**	**Gallons**
☐☐☐☐☐☐☐☐	 01	..... 02 .....

36. How was this radioactive mixed waste managed? *(Circle all that apply)*

01 Stored onsite
02 Treated onsite
03 Disposed onsite
04 Other onsite management _____ *(specify)*
05 Sent offsite for management

WASTE MINIMIZATION

The information requested in this section and several questions from Questionnaire GB, "Hazardous Waste Characterization" will be used to understand this facility's waste minimization program, to assess the effect your program has had on reducing waste volume and toxicity, and to determine the broad effect of the program on different media in the environment.

Under the Hazardous and Solid Waste Amendments of 1984 (HSWA), facilities that send hazardous waste offsite are required to certify on the manifest that they have a program in place to minimize, to the extent economically practicable, the volume and toxicity of the hazardous waste generated onsite. HSWA also requires facilities that are permitted to treat, store, or dispose of hazardous waste to certify yearly that they have a waste minimization program in place. Several questions in this section address procedures that are legal requirements for facilities that ship hazardous waste offsite or that were granted a permit after HSWA went into effect; however, these procedures are not legal requirements for facilities that manage all hazardous waste onsite and that have not received a permit.

It may appear that this section underemphasizes the role of recovery and recycling processes in waste minimization; however, these processes are addressed elsewhere in this survey. If this facility operates recovery or recycling processes, complete the appropriate questionnaire for the type of recovery or recycling process onsite. EPA considers recycling, reuse, and reclamation processes important components of a generator's waste minimization program.

Waste minimization is the reduction, to the extent feasible, of the hazardous waste that is generated or subsequently treated, stored, or disposed of. It includes any *source reduction* or *recycling* activity undertaken that results in either (1) the reduction of total volume or quantity of hazardous waste or (2) the reduction of toxicity of hazardous waste, or both, so long as such reduction is consistent with the goal of minimizing present and future threats to human health and the environment.

Source reduction refers to the reduction or elimination of hazardous waste generation at the source, usually within a process. Source reduction measures can include process modifications, feedstock substitutions or improvements in feedstock purity, various housekeeping and management practices, increases in the efficiency of machinery, and even recycling within a process. Source reduction implies any action that reduces the amount of hazardous waste exiting from a process.

Recycling refers to the use or reuse of a hazardous waste as an effective substitute for a commercial product, or as an ingredient or feedstock in an industrial process. It also refers to the reclamation of useful constituent fractions within a waste material or removal of contaminants from a waste to allow it to be reused. Recycling implies use, reuse, or reclamation of a hazardous waste either onsite or offsite after it is generated by a particular process.

COMPONENTS OF A WASTE MINIMIZATION PROGRAM

37. **Does this facility have a waste minimization (i.e., source reduction or recycling) program in place?** *(Circle one)*

(01) Yes *(Go to next question)*
02 No *(Skip to Question 39)*

38. **How long has this waste minimization program been in effect?**

1	0	years

39. **Does this facility have a written policy or statement that outlines goals, objectives, and methods for waste minimization (i.e., source reduction or recycling)?** *(Circle one)*

(01) Yes
02 No

40. **Does management at this facility actively encourage the implementation of source reduction and recycling practices?** *(Circle one)*

(01) Yes
02 No

41. **Since November of 1984, has this facility conducted a waste minimization opportunity assessment or a waste minimization audit?** *(Circle one)*

A waste minimization opportunity assessment/audit is a procedure that identifies waste generating processes and opportunities for source reduction or recycling of that waste.

(01) Yes *(Go to next question)*
02 No *(Skip to Question 44)*

42. **What was the scope of this waste minimization opportunity assessment/audit?** *(Circle one)*
(01) Facility-wide
02 Restricted to one or several processes

43. **How often does this facility conduct waste minimization opportunity assessments/audits?** *(Circle one)*
01 Less than once per year
02 Once per year
(03) More than once per year MONTHLY
(specify the number of times per year)

44. **Since November of 1984, has this facility identified or discovered new opportunities to reduce the volume or toxicity of the hazardous waste generated through source reduction and recycling practices?** *(Circle one)*
(01) Yes *(Go to next question)*
02 No *(Skip to Question 46)*

45. **Were these new opportunities to reduce the volume or toxicity of the hazardous waste generated onsite identified through a waste minimization opportunity assessment/audit?** *(Circle one)*
(01) Yes
02 No

46. **Does this facility take into account the management of generated hazardous waste and possible waste minimization opportunities during the development of a new product or process line?** *(Circle one)*
(01) Yes
02 No

47. **Is this facility currently planning or investigating any of the following so that they may reduce the volume or toxicity of the hazardous waste generated or subsequently treated, stored, or disposed of onsite?** *(Circle all that apply)*
(01) Equipment or technology modification/substitution
02 Process or procedure modification/substitution (including closed-loop recycling)
03 Reformulation or redesign of product
(04) Modification/substitution of input or raw material
(05) Better housekeeping, better operating practices
06 Waste stream segregation
07 Onsite recycling or recovery for reuse
(08) Offsite recycling or recovery for reuse
09 None
10 Other _____
(specify)

48. **Are any employees at this facility SPECIFICALLY ASSIGNED to investigate and identify possible waste minimization practices such as modification or substitution of a raw material, reformulation or redesign of a product, modification of a process or equipment, segregation of waste streams, recycling of waste streams, or development of better operating practices, in order to reduce the volume or toxicity of the hazardous waste generated or subsequently treated, stored, or disposed of onsite?** *(Circle one)*

(01) Yes
02 No

49. **Are any employees at this facility ENCOURAGED to investigate and identify possible waste minimization practices such as modification or substitution of a raw material, reformulation or redesign of a product, modification of a process or equipment, segregation of waste streams, recycling of waste streams, or development of better operating practices, in order to reduce the volume or toxicity of the hazardous waste generated or subsequently treated, stored, or disposed of onsite?** *(Circle one)*

(01) Yes
02 No

50. **Are any employees at the PARENT COMPANY of your facility specifically assigned to investigate and identify possible waste minimization practices such as modification or substitution of a raw material, reformulation or redesign of a product, modification of a process or equipment, segregation of waste streams, recycling of waste streams, or development of better operating practices, in order to reduce the volume or toxicity of the hazardous waste generated or subsequently treated, stored, or disposed of onsite?** *(Circle one)*

(01) Yes
02 No
03 This facility does not have a parent company

51. **Does this facility have an employee training program to educate and encourage employees to practice good operating procedures and to identify to management possible source reduction and recycling practices?** *(Circle one)*

(01) Yes
02 No

52. **Does this facility have an incentive (rewards) program to encourage employees to identify and develop possible source reduction and recycling practices?** *(Circle one)*

01 Yes
(02) No

53. **Since November of 1984, has this facility received information or technical assistance on waste minimization?** *(Circle one)*

(01) Yes *(Go to next question)*
02 No *(Skip to Question 56)*

54. **From whom does this facility receive information or technical assistance on waste minimization?** *(Circle all that apply)*

01 Local government agencies
(02) State government agencies
03 Federal agencies
(04) Trade associations
(05) Suppliers/vendors
(06) Other parts of your firm or facility
(07) Literature/magazines
08 Consulting engineers
09 Universities
(10) Conferences/seminars
11 Other firms
12 Other _____
(specify)

55. **Has any information or technical assistance received been used to develop or implement waste minimization practices at this facility?** *(Circle one)*

(01) Yes
02 No

56. **Since November of 1984, has this facility applied for financial assistance, loans, grants, or preferential tax treatment from the state government for the implementation of waste minimization practices?** *(Circle one)*

01 Yes *(Go to next question)*
(02) No *(Skip to Question 58)*

57. **Since November of 1984, has this facility RECEIVED financial assistance, loans, grants, or preferential tax treatment from the state government for the implementation of waste minimization practices?** *(Circle one)*

01 Yes
02 No

58. **Since November of 1984, has this facility applied for or received financing from the private market for the implementation of waste minimization practices?** *(Circle one)*

01 Yes
(02) No

REASONS FOR CONDUCTING WASTE MINIMIZATION

59. **Since November of 1984, has this facility implemented any source reduction practices such as modification or substitution of a raw material, reformulation or redesign of a product, modification of a process or equipment, or segregation of waste streams?** *(Circle one)*

(01) Yes *(Go to next question)*
02 No *(Skip to Question 61)*

60. **Were these source reduction practices implemented as a result of a waste minimization opportunity assessment/audit?** *(Circle one)*

(01) Yes
02 No

61. **Since November of 1984, has this facility implemented any recycling practices such as metals recovery for reuse, solvent recovery for reuse, or other recycling of waste?** *(Circle one)*

01 Yes *(Go to next question)*
(02) No *(Skip to Question 63)*

62. **Were these recycling practices implemented as a result of a waste minimization opportunity assessment/audit?** *(Circle one)*

01 Yes
02 No

63. **Why are waste minimization practices being planned, investigated, or implemented at this facility?** *(Circle all that apply)*

01 No waste minimization practices have been planned, investigated, or implemented *(Skip to Question 76 on page 20)*
02 To reduce the concentrations of constituents in the waste in order to meet the discharge standards
03 New technology or product became available that reduces the volume or toxicity of waste generated
04 To improve public perception
05 Competitors were conducting waste minimization programs
(06) To reduce the cost of production
(07) To reduce the cost of hazardous waste management
08 Lack of available capacity to treat, store, or dispose of hazardous waste
09 Waste or effluent permitting or compliance difficulties
10 RCRA corrective action requirements
(11) Potential financial liability for improperly managed wastes
12 Difficulty in obtaining liability insurance
(13) Protect human health and the environment
14 Other _____ *(specify)*

64. **Was it necessary for this facility to make any capital investments for equipment in order to implement its waste minimization practices?** *(Circle one)*

(01) Yes *(Go to next question)*
02 No *(Skip to Question 68)*

65. **Does this facility intend to recover the cost of these capital investments through decreased production costs or decreased hazardous waste management costs?** *(Circle one)*

(01) Yes
02 No

66. **What costs does this facility's accounting system charge back to specific waste-generating operations?** *(Circle all that apply)*

01 Total hazardous waste management charges
02 Process specific charges that are adjusted for such items as waste volume, type of treatment, and disposal
03 Insurance and other costs associated with hazardous waste management
(04) Other NONE
(specify)

67. **What was the average pay-back period for the waste minimization practices implemented?** *(Circle one)*

01 Six months
(02) One year
03 Eighteen months
04 Two years
05 Three years
06 Four years
07 Five or more years

68. **What effect do this facility's waste minimization practices have on the quantity of water effluent generated by hazardous waste generation processes?** *(Circle one)*

01 Increase in the quantity of water effluent generated
02 Decrease in the quantity of water effluent generated
(03) No effect on the quantity of water effluent generated

69. **What effect do this facility's waste minimization practices have on the toxicity of water effluent generated by hazardous waste generation processes?** *(Circle one)*

01 Increase in the concentration of hazardous constituents
02 Decrease in the concentration of hazardous constituents
(03) No effect on the concentration of hazardous constituents

70. **Was it necessary to revise this facility's NPDES permit due to the increase/decrease in the quantity or toxicity of water effluent generated?** *(Circle one)*

01 Yes
02 No
(03) This facility does not have a NPDES permit

71. **What effect do this facility's waste minimization practices have on the quantity of air emissions generated by hazardous waste generation processes?** *(Circle one)*

01 Increase in the quantity of air emissions generated
02 Decrease in the quantity of air emissions generated
(03) No effect on the quantity of air emissions generated

72. **What effect do this facility's waste minimization practices have on the toxicity of air emissions generated by hazardous waste generation processes?** *(Circle one)*

01 Increase in the concentration of hazardous constituents
02 Decrease in the concentration of hazardous constituents
(03) No effect on the concentration of hazardous constituents

73. **Was it necessary to install an air pollution control device (APCD), modify an existing APCD, or add an additional APCD to an existing APCD as a result of this facility's waste minimization practices?** *(Circle one)*

01 Yes
(02) No

74. **Was it necessary to modify onsite hazardous waste treatment or pretreatment processes as a result of this facility's waste minimization practices?** *(Circle one)*

01 Yes
(02) No

75. **Was it necessary to revise this facility's RCRA permit as a result of its waste minimization practices?** *(Circle one)*

01 Yes
(02) No

76. **Why have waste minimization practices not been implemented at this facility?** *(Circle all that apply)*

01 Sufficient capital not available to install new equipment
02 Lack of technical information on source reduction and recycling techniques
03 Not economically feasible—does not decrease hazardous waste management costs or production costs or expected cost savings will not recover the initial capital investment
04 Concerned that the product quality may decline if waste minimization is implemented
05 Requirements to manifest wastes prevent or inhibit shipments offsite for recycling
06 Financial liability provisions prevent or inhibit shipments offsite for recycling
07 Technical limitations of production processes
08 Permitting burdens
(09) Other They have been implemented.
(specify)

77. **Are any of the hazardous wastes that were generated onsite at this facility during 1985 no longer generated onsite?** *(Circle one)*

(01) Yes *(Go to next question)*
02 No *(Skip to page 21)*

78. **Why is this hazardous waste(s) no longer generated onsite?** *(Circle all that apply)*

(01) Similar wastes are now generated onsite but the hazardous constituents have been removed as a result of process or equipment modification
02 Change or elimination of a production process
03 Source reduction practices implemented
04 Onsite or offsite recycling of waste
05 Purchase of exact same input or raw material from offsite
06 Other _____
(specify)

79. **List a RCRA waste code for each type of hazardous waste that was generated onsite at this facility during 1985 but is no longer generated onsite.** *(See Appendix C of the Instructions booklet for a list of RCRA and other waste codes.)*

a.	X	P	B	2	
b.	X	P	B	3	
c.					
d.					
e.					
f.					
g.					
h.					
i.					
j.					

HYDROGEOLOGIC AND EXPOSURE INFORMATION

EPA has developed models that predict the fate and transport of hazardous constituents by air, groundwater, and surface water. These models predict the exposure to the environment from the management of hazardous waste. The questions in this section have been developed to supplement the available data, which will be used as inputs to these models. Provide responses to the questions in this section using the best information available, even if this requires you to make estimates. (Hydrogeologic terms used in these questions have been defined in the Instructions booklet.)

The phrase "area where hazardous waste is handled" is used throughout these questions to refer to container accumulation or storage areas, units with a RCRA permit or interim status, and units exempt from RCRA permitting requirements.

NOTE: NO INFORMATION AVAILABLE FOR QUESTIONS 80-88, 104-

80. Is the area where hazardous waste is handled located in any of the following? *(Circle 01 or 02 for each)*

	Yes	No
a. 100-year floodplain	01	02
b. Area designated as a wetland	01	02
c. Karst terrain	01	02

81. Is the bottom of the area where hazardous waste is handled located completely above the seasonal high water table? *(Circle one)*

01 Yes *(Go to next question)*
02 No *(Skip to Question 85)*

82. What is the predominant type of soil between the seasonal high water table and the bottom of the area where hazardous waste is handled? *(Circle one)*

01 Gravel
02 Sandy gravel
03 Sand
04 Silty sand
05 Silt
06 Silty clay
07 Clay
08 Other _____ *(specify)*

83. What is the predominant type of geologic material in the uppermost aquifer? *(Circle one)*

01 Sandstone
02 Limestone
03 Gravel
04 Sandy gravel
05 Sand
06 Silty sand
07 Silt
08 Silty clay
09 Clay
10 Other _____
(specify)

84. What is the depth from the bottom of the area where hazardous waste is handled to the seasonal high water table?

☐☐☐☐ feet

85. What is the average permeability (hydraulic conductivity), porosity, hydraulic gradient, and thickness of the uppermost aquifer beneath this facility?

a. Permeability (hydraulic conductivity) ..... _____ centimeter per second
b. Porosity ..... ☐☐☐ percent
c. Hydraulic gradient ..... ☐☐☐ percent
d. Thickness ..... ☐☐☐ feet

86. What is the average horizontal flow rate of the groundwater in the uppermost aquifer beneath this facility?

☐☐☐☐ feet per year

87. What is the predominant direction of groundwater flow in the uppermost aquifier beneath this facility? *(Enter the answer in degrees with North = 0, East = 90, South = 180, and West = 270.)*

☐☐☐ degrees

88. **What source was used to supply the hydrogeologic information for Questions 80 through 87?** *(Circle all that apply)*

01 Site-specific hydrogeologic study data
02 Hydrogeologic information obtained from general literature, such as county reports
03 No hydrogeologic data available; "best estimates" provided
04 Other _____ *(specify)*

89. **What is the shortest distance from the edge of any area where hazardous waste is handled to the property boundary?**

	3	0	0

feet

90. **What type of hazardous waste area is this?** *(Circle one)*

(01) Container storage or accumulation area
02 Tank storage or accumulation area
03 Treatment/recovery tanks
04 Incinerator
05 Boiler
06 Furnace
07 Waste pile
08 Surface impoundment
09 Landfill
10 Land treatment area
11 Underground injection well
12 Other _____ *(specify)*

91. **What is the direction of the shortest straight line from the edge of this area to the property boundary?** *(Enter the answer in degrees with North = 0, East = 90, South = 180, and West = 270.)*

1	8	0

degrees

92. **Estimate the number of people who live within one mile of the edge of this area.**

				0

93. **What is the shortest distance from a residence to the edge of any area where hazardous waste is handled?**

5	6	8	0

feet

94. What type of hazardous waste area is this? *(Circle one)*

(01) Container storage or accumulation area
02 Tank storage or accumulation area
03 Treatment/recovery tanks
04 Incinerator
05 Boiler
06 Furnace
07 Waste pile
08 Surface impoundment
09 Landfill
10 Land treatment area
11 Underground injection well
12 Other _____
(specify)

95. What is the direction of the shortest straight line from the edge of this area to this residence?
(Enter the answer in degrees with North = 0, East = 90, South = 180, and West = 270)

[ ][ ][0] degrees

96. Are any PRIVATE drinking water wells located within one mile downgradient of the edge of any area where hazardous waste is handled? *(Circle one)*

01 Yes *(Go to next question)*
(02) No *(Skip to Question 100)*

97. What type of hazardous waste area is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank storage or accumulation area
03 Treatment/recovery tanks
04 Incinerator
05 Boiler
06 Furnace
07 Waste pile
08 Surface impoundment
09 Landfill
10 Land treatment area
11 Underground injection well
12 Other _____
(specify)

98. What is the distance from the closest downgradient PRIVATE drinking water well to the edge of this area?

☐☐☐☐ feet

99. Estimate the number of people who use these PRIVATE wells for drinking water. *(If none, enter zero)*

☐☐☐☐☐☐

100. Are any PUBLIC drinking water wells located within one mile downgradient of the edge of any area where hazardous waste is handled? *(Circle one)*

01 Yes *(Go to next question)*
(02) No *(Skip to Question 104)*

101. What type of hazardous waste area is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank storage or accumulation area
03 Treatment/recovery tanks
04 Incinerator
05 Boiler
06 Furnace
07 Waste pile
08 Surface impoundment
09 Landfill
10 Land treatment area
11 Underground injection well
12 Other _____
(specify)

102. What is the distance from the closest downgradient PUBLIC drinking water well to the edge of this area?

☐☐☐☐ feet

103. Estimate the number of people who use these PUBLIC wells for drinking water. *(If none, enter zero)*

☐☐☐☐☐☐

104. Are there any river or stream segments that are within one mile and at lower elevations than any area where hazardous waste is handled? *(Circle one)*

01 Yes *(Go to next question)*
02 No *(Skip to Question 108)*

105. What type of hazardous waste area is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank storage or accumulation area
03 Treatment/recovery tanks
04 Incinerator
05 Boiler
06 Furnace
07 Waste pile
08 Surface impoundment
09 Landfill
10 Land treatment area
11 Underground injection well
12 Other _____
(specify)

106. What is the distance from the closest downgradient river or stream segment to the edge of this area?

☐☐☐☐ feet

107. Estimate the number of people who use these rivers or streams for drinking water. *(If none, enter zero)*

☐☐☐☐☐☐☐☐

108. Are there any lakes or reservoirs that are within one mile and at lower elevations than the edge of any area where hazardous waste is handled? *(Circle one)*

01 Yes *(Go to next question)*
02 No *(Skip to Question 112)*

109. What type of hazardous waste area is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank storage or accumulation area
03 Treatment/recovery tanks
04 Incinerator
05 Boiler
06 Furnace
07 Waste pile
08 Surface impoundment
09 Landfill
10 Land treatment area
11 Underground injection well
12 Other _____
(specify)

110. What is the distance from the closest downgradient lake or reservoir to the edge of this area?

☐☐☐☐ feet

111. Estimate the number of people who use these lakes or reservoirs for drinking water.
(If none, enter zero)

☐☐☐☐☐☐☐☐

112. Is groundwater quality monitored periodically at this facility? *(Circle one)*

01 Yes *(Go to next question)*
(02) No *(Skip to Question 114)*

113. Complete the following table describing the upgradient and downgradient groundwater monitoring wells at this facility.

Upgradient and Downgradient Groundwater Monitoring Wells	*Enter the quantity specified; if none, enter zero.*	
Question	**Upgradient Wells**	**Downgradient Wells**
a. Number of monitoring wells at this facility	☐☐☐	☐☐☐
b. Average depth of wells from ground surface	☐☐☐ ft	☐☐☐ ft
c. Average number of times per year wells are sampled	☐☐	☐☐
d. Number of samples per well per sampling period	☐☐	☐☐
e. Maximum number of years any of these wells have been sampled	☐☐ yr	☐☐ yr

114. Does this facility discharge effluents directly to surface waters? *(Circle one)*

01 Yes *(Go to next question)*
(02) No *(Skip to Question 118)*

115. How often is the discharged effluent sampled? *(Circle one)*

01 The discharged effluent is not sampled
02 Monthly
03 Quarterly
04 Semiannually
05 Annually
06 Less than once per year _____
(specify how frequently)

116. Is the discharged effluent monitored for any 40 CFR §261 Appendix IX constituents? *(Circle one)*

01 Yes
02 No
03 Don't know

117. Are any of the 40 CFR §261 Appendix IX constituents found in the discharged effluent regulated by this facility's NPDES permit? *(Circle one)*

01 Yes
02 No
03 Don't know

118. Does this facility monitor surface water? *(Circle one)*

01 Yes *(Go to next question)*
(02) No *(Skip to page 29)*

119. Where is the surface water monitored? *(Circle all that apply)*

01 At each NPDES outfall
02 Downstream of the NPDES outfall
03 Upstream of the NPDES outfall
04 Other _____
(specify)

120. How many times per year is the surface water sampled?

SOLID WASTE MANAGEMENT UNITS (SWMUs)

In this section, EPA is trying to obtain information on SWMUs at two types of facilities:

- Facilities that have a permit or seek a permit to treat, store, or dispose of hazardous waste.
- Facilities that generate hazardous waste and accumulate it onsite for 90 days or less before shipping it offsite for management (90-day generators).

The information provided in survey responses from those facilities that have or seek a permit to treat, store, or dispose of hazardous waste will be used to help support technical development and to assess the impacts of corrective action requirements at treatment, storage, and disposal facilities. This information will also be used to evaluate public comment on the proposed rule and modify the proposed standards for corrective action.

The information provided in survey responses from 90-day generators will be used to assess the extent of the impact on the environment of SWMUs at these facilities. EPA will also use this information in developing standards and requirements for cleanup of SWMUs at these facilities and to assess the impacts of corrective action requirements.

A ***solid waste management unit*** (SWMU) includes any unit at a facility at which solid or hazardous waste has been placed at any time, irrespective of whether the units were intended for the management of SOLID OR HAZARDOUS wastes. This includes container areas, tank areas or systems, waste piles, surface impoundments, landfills, land treatment areas, incinerators, boilers, furnaces, and chemical, physical, or biological treatment units irrespective of whether the unit or area is regulated, permitted, or exempt from RCRA. In addition, EPA has interpreted the term SWMU to apply to areas associated with production processes that have become contaminated as a result of routine and systematic releases of hazardous wastes or constituents.

121. Does this facility have or is it currently pursuing a permit to treat, store, or dispose of hazardous waste? *(Circle one)*

Answer "No" if this facility notified EPA only as a 90-day generator and the facility is not seeking a permit to treat, store, or dispose of hazardous waste.

(01) Yes
02 No

122. What financial arrangements has this facility made to respond to releases from, closure of, and postclosure of SWMUs at this facility? *(Circle all that apply)*

01 Trust fund
02 Letter of credit
03 Environmental impairment liability insurance
04 None
(05) Other Financial test
(specify)

123. Have any of the units or areas onsite that are CURRENTLY RECEIVING HAZARDOUS WASTE had a release of hazardous material into the environment which required notification under 40 CFR §302.6? *(Circle one)*

01 Yes *(Go to next question)*
(02) No *(Skip to Question 125 on page 33)*

124. Complete a separate Solid Waste Management Unit (SWMU) Form for EACH unit and area that is currently receiving hazardous waste and that has had a release of hazardous material into the environment which required notification under 40 CFR §302.6.

This questionnaire contains two SWMU Forms for units and areas that are currently receiving hazardous waste and that have had a release of hazardous material into the environment. If your facility has more than two SWMUs, call the Survey Helpline (1-800-635-8850) and we will provide you with additional SWMU Forms—do not photocopy to create additional forms.

After you have completed a SWMU Form for each unit and area, GO TO QUESTION 125 ON PAGE 33.

QUESTION 124

SWMUs Currently Receiving Hazardous Waste That Have Had a Release of Hazardous Material into the Environment

SWMU No. 1

124a. What type of SWMU is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank area or system
03 Surface impoundment
04 Waste pile
05 Land treatment area
06 Landfill
07 Incinerator
08 Boiler
09 Furnace
10 Production area contaminated as a result of routine and systematic releases of hazardous wastes or constituents
11 Other _____ *(specify)*

124b. Which questionnaire from EPA's National Survey of Hazardous Waste Treatment, Storage, Disposal, and Recycling Facilities or from EPA's National Survey of Hazardous Waste Generators was completed for this unit? What number was assigned to the unit? *(If this SWMU is a container area or a production area, enter "NA")*

i. Questionnaire . . [ ] *(Enter the letter from the cover of the Questionnaire)*

ii. Unit number . . . . . [ ] *(Enter the column number For tanks, enter the number assigned by you for the survey)*

124c. What was the quantity of hazardous material released from this SWMU into the environment? *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . . . [ ]

ii. Unit of measure *(Circle one)*

01 Pounds
02 Gallons

124d. Describe the hazardous material released from this SWMU into the environment. *(Enter RCRA waste codes from Appendix C of the Instructions booklet to describe the hazardous material If there are no RCRA waste codes for the hazardous material, enter the chemical name)*

_____

_____

124e. Where was the hazardous material released to? *(Circle all that apply)*

01 Soil
02 Groundwater
03 Surface water
04 Air
05 Other _____ *(specify)*

124f. Was corrective action taken for each of the following? *(Circle 01 or 02 for each)*

	Yes	No
i. Releases into the soil	01	02
ii. Releases into the groundwater	01	02
iii. Releases into the surface water	01	02
iv. Releases into the air	01	02
v. Other _____ *(specify)*	01	02

NOTE: GO TO QUESTION 125 ON PAGE 33 IF YOU HAVE COMPLETED A SWMU FORM FOR EACH SWMU THAT IS CURRENTLY RECEIVING HAZARDOUS WASTE AND THAT HAS HAD A RELEASE OF HAZARDOUS MATERIAL INTO THE ENVIRONMENT.

QUESTION 124

SWMUs Currently Receiving Hazardous Waste That Have Had a Release of Hazardous Material into the Environment

SWMU No. 2

124a. What type of SWMU is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank area or system
03 Surface impoundment
04 Waste pile
05 Land treatment area
06 Landfill
07 Incinerator
08 Boiler
09 Furnace
10 Production area contaminated as a result of routine and systematic releases of hazardous wastes or constituents
11 Other _____ *(specify)*

124b. Which questionnaire from EPA's National Survey of Hazardous Waste Treatment, Storage, Disposal, and Recycling Facilities or from EPA's National Survey of Hazardous Waste Generators was completed for this unit? What number was assigned to the unit? *(If this SWMU is a container area or a production area, enter "NA")*

i. Questionnaire ... [ ][ ] *(Enter the letter from the cover of the Questionnaire)*

ii. Unit number ..... [ ][ ][ ] *(Enter the column number For tanks, enter the number assigned by you for the survey)*

124c. What was the quantity of hazardous material released from this SWMU into the environment? *(Enter the quantity and circle a unit of measure)*

i. Quantity ..... [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

ii. Unit of measure *(Circle one)*

01 Pounds
02 Gallons

124d. Describe the hazardous material released from this SWMU into the environment. *(Enter RCRA waste codes from Appendix C of the Instructions booklet to describe the hazardous material If there are no RCRA waste codes for the hazardous material, enter the chemical name.)*

_____

_____

124e. Where was the hazardous material released to? *(Circle all that apply)*

01 Soil
02 Groundwater
03 Surface water
04 Air
05 Other _____ *(specify)*

124f. Was corrective action taken for each of the following? *(Circle 01 or 02 for each)*

	Yes	No
i. Releases into the soil	01	02
ii. Releases into the groundwater	01	02
iii. Releases into the surface water	01	02
iv. Releases into the air	01	02
v. Other _____ *(specify)*	01	02

NOTE: GO TO QUESTION 125 ON PAGE 33 IF YOU HAVE COMPLETED A SWMU FORM FOR EACH SWMU THAT IS CURRENTLY RECEIVING HAZARDOUS WASTE AND THAT HAS HAD A RELEASE OF HAZARDOUS MATERIAL INTO THE ENVIRONMENT.

125. What types of units and areas does this facility have onsite that are currently receiving ONLY nonhazardous waste? How many units or areas of each type does this facility have onsite?

DO NOT INCLUDE IN YOUR ANSWER UNITS AND AREAS THAT ARE CURRENTLY RECEIVING HAZARDOUS WASTE.

Type and Number of Units and Areas That Are Currently Receiving ONLY Nonhazardous Waste	*Indicate whether or not this facility has a unit or area of each type onsite. If you circle 01, indicate how many units or areas of that type this facility has onsite.*		
Type of unit or area	**Does this facility have this type of unit or area onsite?** *(Circle one)* **Yes**	**No**	**How many units or areas of this type does this facility have onsite?**
a. Container storage or accumulation area	01	(02)	
b. Tank area or system	01	(02)	
c. Surface impoundment	01	(02)	
d. Waste pile	01	(02)	
e. Land treatment area	01	(02)	
f. Landfill	01	(02)	
g. Incinerator	01	(02)	
h. Boiler	01	(02)	
i. Furnace	01	(02)	
j. Production area contaminated as a result of routine and systematic releases of hazardous wastes or constitutents	01	(02)	
k. Other _____ *(specify)*	01	(02)	

GO TO QUESTION 126 if you circled 01 (Yes) for AT LEAST ONE of the unit and area types listed above.

SKIP TO QUESTION 127 on page 44 if you circled 02 (No) for ALL of the unit and area types listed above.

126. Complete a separate Solid Waste Management Unit (SWMU) Form for EACH unit and area included in your response to Question 125.

This questionnaire contains five SWMU Forms for units and areas that are currently receiving ONLY nonhazardous waste. If your facility has more than five SWMUs, call the Survey Helpline (1-800-635-8850) and we will provide you with additional SWMU Forms—do not photocopy to create additional forms.

After you have completed a SWMU Form for each unit and area included in your response to Question 125, GO TO QUESTION 127 ON PAGE 44.

SWMUs Currently Receiving ONLY Nonhazardous Waste

QUESTION 126

SWMU No. 1

126a. What type of SWMU is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank area or system
03 Surface impoundment
04 Waste pile
05 Land treatment area
06 Landfill
07 Incinerator
08 Boiler
09 Furnace
10 Production area contaminated as a result of routine and systematic releases of hazardous wastes or constituents
11 Other _____ *(specify)*

126b. What was the annual quantity of solid waste entering this SWMU during 1986? *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
ii. Unit of measure *(Circle one)*
01 Tons
02 Gallons

126c. What is the remaining capacity of this SWMU that can be used for the management of solid waste? *(Enter the quantity and circle a unit of measure. If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA.")*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
ii. Unit of measure *(Circle one)*
01 Acre feet
02 Cubic yards

126d. In what year was solid waste first placed in this SWMU?

[ ][ ][ ][ ]

126e. What is the total cumulative quantity of solid waste in this SWMU? *(Enter the quantity and circle a unit of measure. If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA.")*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
ii. Unit of measure *(Circle one)*
01 Tons
02 Gallons

126f. What is the area of this SWMU? *(If this SWMU is an incinerator, boiler, or furnace, enter "NA.")*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
ii. Unit of measure *(Circle one)*
01 Acres
02 Square feet

126g. Is this SWMU inside a building? *(Circle one)*

01 Yes
02 No

126h. What are the top five wastes (by volume) placed in this SWMU?

For each waste, enter a RCRA waste code and a Waste Description Code. See Appendix C of the Instructions booklet for a list of RCRA and other waste codes. See the inside front cover of this questionnaire for the list of Waste Description Codes. If the code requires you to specify, do so in the space provided. If the waste IS NOT A RCRA WASTE or one of the other wastes specified in Appendix C, enter "NA" in the RCRA Waste Code column, then enter a Waste Description Code and specify the waste in the space provided.

	RCRA Waste Code	Waste Description Code
No. 1 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 2 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 3 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 4 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 5 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		

126i. **Do you conduct groundwater monitoring of this SWMU?** *(Circle one)*

01 Yes—facility groundwater monitoring system is designed to individually monitor this SWMU

02 Yes—facility groundwater monitoring system is designed to monitor all or some SWMUs as a group, including this SWMU

03 No

126j. **Has this SWMU had a release of hazardous material into the environment which required notification under 40 CFR §302.6?** *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to the note at the end of this SWMU Form)*

126k. **What was the quantity of hazardous material released from this SWMU into the environment?** *(Enter the quantity and circle a unit of measure)*

i. Quantity ..... | | | | | | | | | |

ii. Unit of measure *(Circle one)*

01 Pounds

02 Gallons

126l. **Describe the hazardous material released from this SWMU into the environment.** *(Enter RCRA waste codes from Appendix C of the Instructions booklet to describe the hazardous material. If there are no RCRA waste codes for the hazardous material, enter the chemical name.)*

_____

_____

126m. **Where was the hazardous material released to?** *(Circle all that apply)*

01 Soil

02 Groundwater

03 Surface water

04 Air

05 Other _____ *(specify)*

126n. **Was corrective action taken for each of the following?** *(Circle 01 or 02 for each)*

	Yes	No
i. Releases into the soil	01	02
ii. Releases into the groundwater	01	02
iii. Releases into the surface water	01	02
iv Releases into the air	01	02
v Other _____ *(specify)*	01	02

NOTE: GO TO QUESTION 127 ON PAGE 44 IF YOU HAVE COMPLETED A SWMU FORM FOR EACH SWMU YOU INCLUDED IN YOUR RESPONSE TO QUESTION 125.

SWMUs Currently Receiving ONLY Nonhazardous Waste

QUESTION 126

SWMU No. 2

126a. What type of SWMU is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank area or system
03 Surface impoundment
04 Waste pile
05 Land treatment area
06 Landfill
07 Incinerator
08 Boiler
09 Furnace
10 Production area contaminated as a result of routine and systematic releases of hazardous wastes or constituents
11 Other _____ *(specify)*

126b. What was the annual quantity of solid waste entering this SWMU during 1986? *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
ii. Unit of measure *(Circle one)*
01 Tons
02 Gallons

126c. What is the remaining capacity of this SWMU that can be used for the management of solid waste? *(Enter the quantity and circle a unit of measure If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA.")*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
ii. Unit of measure *(Circle one)*
01 Acre feet
02 Cubic yards

126d. In what year was solid waste first placed in this SWMU?

[ ][ ][ ][ ]

126e. What is the total cumulative quantity of solid waste in this SWMU? *(Enter the quantity and circle a unit of measure If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA.")*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
ii. Unit of measure *(Circle one)*
01 Tons
02 Gallons

126f. What is the area of this SWMU? *(If this SWMU is an incinerator, boiler, or furnace, enter "NA")*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
ii. Unit of measure *(Circle one)*
01 Acres
02 Square feet

126g. Is this SWMU inside a building? *(Circle one)*

01 Yes
02 No

126h. What are the top five wastes (by volume) placed in this SWMU?

For each waste, enter a RCRA waste code and a Waste Description Code See Appendix C of the Instructions booklet for a list of RCRA and other waste codes. See the inside front cover of this questionnaire for the list of Waste Description Codes If the code requires you to specify, do so in the space provided. If the waste IS NOT A RCRA WASTE or one of the other wastes specified in Appendix C, enter "NA" in the RCRA Waste Code column, then enter a Waste Description Code and specify the waste in the space provided

	RCRA Waste Code	Waste Description Code
No. 1 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 2 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 3 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 4 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 5 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		

126i. **Do you conduct groundwater monitoring of this SWMU?** *(Circle one)*

01 Yes—facility groundwater monitoring system is designed to individually monitor this SWMU

02 Yes—facility groundwater monitoring system is designed to monitor all or some SWMUs as a group, including this SWMU

03 No

126j. **Has this SWMU had a release of hazardous material into the environment which required notification under 40 CFR §302.6?** *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to the note at the end of this SWMU Form)*

126k. **What was the quantity of hazardous material released from this SWMU into the environment?** *(Enter the quantity and circle a unit of measure)*

i. Quantity ..... | | | | | | | | | |

ii. Unit of measure *(Circle one)*

01 Pounds

02 Gallons

126l. **Describe the hazardous material released from this SWMU into the environment.** *(Enter RCRA waste codes from Appendix C of the Instructions booklet to describe the hazardous material. If there are no RCRA waste codes for the hazardous material, enter the chemical name.)*

_____

_____

126m. **Where was the hazardous material released to?** *(Circle all that apply)*

01 Soil

02 Groundwater

03 Surface water

04 Air

05 Other _____ *(specify)*

126n. **Was corrective action taken for each of the following?** *(Circle 01 or 02 for each)*

	Yes	No
i. Releases into the soil	01	02
ii. Releases into the groundwater	01	02
iii. Releases into the surface water	01	02
iv. Releases into the air	01	02
v. Other _____ *(specify)*	01	02

NOTE: GO TO QUESTION 127 ON PAGE 44 IF YOU HAVE COMPLETED A SWMU FORM FOR EACH SWMU YOU INCLUDED IN YOUR RESPONSE TO QUESTION 125.

SWMUs Currently Receiving ONLY Nonhazardous Waste

QUESTION 126

SWMU No. 3

126a. What type of SWMU is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank area or system
03 Surface impoundment
04 Waste pile
05 Land treatment area
06 Landfill
07 Incinerator
08 Boiler
09 Furnace
10 Production area contaminated as a result of routine and systematic releases of hazardous wastes or constituents
11 Other _____ *(specify)*

126b. What was the annual quantity of solid waste entering this SWMU during 1986? *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . . . .
ii. Unit of measure *(Circle one)*
01 Tons
02 Gallons

126c. What is the remaining capacity of this SWMU that can be used for the management of solid waste? *(Enter the quantity and circle a unit of measure. If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA")*

i. Quantity . . . . . .
ii. Unit of measure *(Circle one)*
01 Acre feet
02 Cubic yards

126d. In what year was solid waste first placed in this SWMU?

126e. What is the total cumulative quantity of solid waste in this SWMU? *(Enter the quantity and circle a unit of measure. If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA.")*

i. Quantity . . . . . .
ii. Unit of measure *(Circle one)*
01 Tons
02 Gallons

126f. What is the area of this SWMU? *(If this SWMU is an incinerator, boiler, or furnace, enter "NA")*

i. Quantity . . . . . .
ii. Unit of measure *(Circle one)*
01 Acres
02 Square feet

126g. Is this SWMU inside a building? *(Circle one)*

01 Yes
02 No

126h. What are the top five wastes (by volume) placed in this SWMU?

For each waste, enter a RCRA waste code and a Waste Description Code. See Appendix C of the Instructions booklet for a list of RCRA and other waste codes. See the inside front cover of this questionnaire for the list of Waste Description Codes. If the code requires you to specify, do so in the space provided. If the waste IS NOT A RCRA WASTE or one of the other wastes specified in Appendix C, enter "NA" in the RCRA Waste Code column, then enter a Waste Description Code and specify the waste in the space provided.

	RCRA Waste Code	Waste Description Code
No. 1		
Specify		
No. 2		
Specify		
No. 3		
Specify		
No. 4		
Specify		
No. 5		
Specify		

126i. **Do you conduct groundwater monitoring of this SWMU?** *(Circle one)*

01 Yes—facility groundwater monitoring system is designed to individually monitor this SWMU

02 Yes—facility groundwater monitoring system is designed to monitor all or some SWMUs as a group, including this SWMU

03 No

126j. **Has this SWMU had a release of hazardous material into the environment which required notification under 40 CFR §302.6?** *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to the note at the end of this SWMU Form)*

126k. **What was the quantity of hazardous material released from this SWMU into the environment?** *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . . | | | | | | | | | |

ii Unit of measure *(Circle one)*

01 Pounds

02 Gallons

126l. **Describe the hazardous material released from this SWMU into the environment.** *(Enter RCRA waste codes from Appendix C of the Instructions booklet to describe the hazardous material. If there are no RCRA waste codes for the hazardous material, enter the chemical name.)*

_____

_____

126m. **Where was the hazardous material released to?** *(Circle all that apply)*

01 Soil

02 Groundwater

03 Surface water

04 Air

05 Other _____ *(specify)*

126n. **Was corrective action taken for each of the following?** *(Circle 01 or 02 for each)*

	Yes	No
i. Releases into the soil	01	02
ii. Releases into the groundwater	01	02
iii Releases into the surface water	01	02
iv Releases into the air	01	02
v. Other _____ *(specify)*	01	02

NOTE: GO TO QUESTION 127 ON PAGE 44 IF YOU HAVE COMPLETED A SWMU FORM FOR EACH SWMU YOU INCLUDED IN YOUR RESPONSE TO QUESTION 125.

SWMUs Currently Receiving ONLY Nonhazardous Waste

QUESTION 126

SWMU No. 4

126a. What type of SWMU is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank area or system
03 Surface impoundment
04 Waste pile
05 Land treatment area
06 Landfill
07 Incinerator
08 Boiler
09 Furnace
10 Production area contaminated as a result of routine and systematic releases of hazardous wastes or constituents
11 Other _____ *(specify)*

126b. What was the annual quantity of solid waste entering this SWMU during 1986? *(Enter the quantity and circle a unit of measure)*

i. Quantity ..... | | | | | | | | | |

ii. Unit of measure *(Circle one)*
01 Tons
02 Gallons

126c. What is the remaining capacity of this SWMU that can be used for the management of solid waste? *(Enter the quantity and circle a unit of measure If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA")*

i. Quantity ..... | | | | | | | | | |

ii. Unit of measure *(Circle one)*
01 Acre feet
02 Cubic yards

126d. In what year was solid waste first placed in this SWMU?

126e. What is the total cumulative quantity of solid waste in this SWMU? *(Enter the quantity and circle a unit of measure If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA.")*

i. Quantity ..... | | | | | | | | | |

ii. Unit of measure *(Circle one)*
01 Tons
02 Gallons

126f. What is the area of this SWMU? *(If this SWMU is an incinerator, boiler, or furnace, enter "NA")*

i. Quantity ..... | | | | | | | | | |

ii. Unit of measure *(Circle one)*
01 Acres
02 Square feet

126g. Is this SWMU inside a building? *(Circle one)*
01 Yes
02 No

126h. What are the top five wastes (by volume) placed in this SWMU?

For each waste, enter a RCRA waste code and a Waste Description Code. See Appendix C of the Instructions booklet for a list of RCRA and other waste codes See the inside front cover of this questionnaire for the list of Waste Description Codes If the code requires you to specify, do so in the space provided If the waste IS NOT A RCRA WASTE or one of the other wastes specified in Appendix C, enter "NA" in the RCRA Waste Code column, then enter a Waste Description Code and specify the waste in the space provided

	RCRA Waste Code	Waste Description Code
No. 1 ...		
Specify _____		
No. 2 ...		
Specify _____		
No. 3 ...		
Specify _____		
No. 4 ..		
Specify _____		
No. 5 ...		
Specify _____		

126i. **Do you conduct groundwater monitoring of this SWMU?** *(Circle one)*

01 Yes—facility groundwater monitoring system is designed to individually monitor this SWMU

02 Yes—facility groundwater monitoring system is designed to monitor all or some SWMUs as a group, including this SWMU

03 No

126j. **Has this SWMU had a release of hazardous material into the environment which required notification under 40 CFR §302.6?** *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to the note at the end of this SWMU Form)*

126k. **What was the quantity of hazardous material released from this SWMU into the environment?** *(Enter the quantity and circle a unit of measure)*

i Quantity . . . . . | | | | | | | | | |

ii. Unit of measure *(Circle one)*

01 Pounds

02 Gallons

126l. **Describe the hazardous material released from this SWMU into the environment.** *(Enter RCRA waste codes from Appendix C of the Instructions booklet to describe the hazardous material. If there are no RCRA waste codes for the hazardous material, enter the chemical name.)*

_____

_____

126m. **Where was the hazardous material released to?** *(Circle all that apply)*

01 Soil

02 Groundwater

03 Surface water

04 Air

05 Other _____ *(specify)*

126n. **Was corrective action taken for each of the following?** *(Circle 01 or 02 for each)*

	Yes	No
i Releases into the soil	01	02
ii. Releases into the groundwater	01	02
iii. Releases into the surface water	01	02
iv. Releases into the air	01	02
v Other _____ *(specify)*	01	02

NOTE: GO TO QUESTION 127 ON PAGE 44 IF YOU HAVE COMPLETED A SWMU FORM FOR EACH SWMU YOU INCLUDED IN YOUR RESPONSE TO QUESTION 125.

SWMUs Currently Receiving ONLY Nonhazardous Waste

QUESTION 126

SWMU No. 5

126a. What type of SWMU is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank area or system
03 Surface impoundment
04 Waste pile
05 Land treatment area
06 Landfill
07 Incinerator
08 Boiler
09 Furnace
10 Production area contaminated as a result of routine and systematic releases of hazardous wastes or constituents
11 Other _____ *(specify)*

126b. What was the annual quantity of solid waste entering this SWMU during 1986? *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
ii. Unit of measure *(Circle one)*
01 Tons
02 Gallons

126c. What is the remaining capacity of this SWMU that can be used for the management of solid waste? *(Enter the quantity and circle a unit of measure. If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA.")*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
ii. Unit of measure *(Circle one)*
01 Acre feet
02 Cubic yards

126d. In what year was solid waste first placed in this SWMU?

[ ][ ][ ][ ]

126e. What is the total cumulative quantity of solid waste in this SWMU? *(Enter the quantity and circle a unit of measure. If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA.")*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
ii. Unit of measure *(Circle one)*
01 Tons
02 Gallons

126f. What is the area of this SWMU? *(If this SWMU is an incinerator, boiler, or furnace, enter "NA.")*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
ii. Unit of measure *(Circle one)*
01 Acres
02 Square feet

126g. Is this SWMU inside a building? *(Circle one)*

01 Yes
02 No

126h. What are the top five wastes (by volume) placed in this SWMU?

For each waste, enter a RCRA waste code and a Waste Description Code. See Appendix C of the Instructions booklet for a list of RCRA and other waste codes. See the inside front cover of this questionnaire for the list of Waste Description Codes. If the code requires you to specify, do so in the space provided. If the waste IS NOT A RCRA WASTE or one of the other wastes specified in Appendix C, enter "NA" in the RCRA Waste Code column, then enter a Waste Description Code and specify the waste in the space provided.

	RCRA Waste Code	Waste Description Code
No. 1 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 2 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 3 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 4 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 5 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		

126i. Do you conduct groundwater monitoring of this SWMU? *(Circle one)*

01 Yes—facility groundwater monitoring system is designed to individually monitor this SWMU

02 Yes—facility groundwater monitoring system is designed to monitor all or some SWMUs as a group, including this SWMU

03 No

126j. Has this SWMU had a release of hazardous material into the environment which required notification under 40 CFR §302.6? *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to the note at the end of this SWMU Form)*

126k. What was the quantity of hazardous material released from this SWMU into the environment? *(Enter the quantity and circle a unit of measure)*

i Quantity . . . . . | | | | | | | | | | |

ii Unit of measure *(Circle one)*

01 Pounds

02 Gallons

126l. Describe the hazardous material released from this SWMU into the environment. *(Enter RCRA waste codes from Appendix C of the Instructions booklet to describe the hazardous material. If there are no RCRA waste codes for the hazardous material, enter the chemical name.)*

_____

_____

126m. Where was the hazardous material released to? *(Circle all that apply)*

01 Soil

02 Groundwater

03 Surface water

04 Air

05 Other _____ *(specify)*

126n. Was corrective action taken for each of the following? *(Circle 01 or 02 for each)*

	Yes	No
i. Releases into the soil	01	02
ii. Releases into the groundwater	01	02
iii. Releases into the surface water	01	02
iv. Releases into the air	01	02
v. Other _____ *(specify)*	01	02

NOTE: GO TO QUESTION 127 ON PAGE 44 IF YOU HAVE COMPLETED A SWMU FORM FOR EACH SWMU YOU INCLUDED IN YOUR RESPONSE TO QUESTION 125.

127. What types of units and areas does this facility have onsite that are closed and used to receive hazardous and/or nonhazardous waste? How many units or areas of each type does this facility have onsite?

DO NOT INCLUDE IN YOUR ANSWER UNITS AND AREAS THAT ARE CURRENTLY RECEIVING HAZARDOUS WASTE.

Type and Number of Units and Areas That Are Closed and Used to Receive Hazardous and/or Nonhazarous Waste	*Indicate whether or not this facility has a unit or area of each type onsite. If you circle 01, indicate how many units or areas of that type this facility has onsite.*		
Type of unit or area	**Does this facility have this type of unit or area onsite?** *(Circle one)* **Yes**	**No**	**How many units or areas of this type does this facility have onsite?**
a. Container storage or accumulation area	01	(02)	
b. Tank area or system	01	(02)	
c. Surface impoundment	01	(02)	
d. Waste pile	01	(02)	
e. Land treatment area	01	(02)	
f. Landfill	01	(02)	
g. Incinerator	01	(02)	
h. Boiler	01	(02)	
i. Furnace	01	(02)	
j. Production area contaminated as a result of routine and systematic releases of hazardous wastes or constitutents	01	(02)	
k. Other — Open Burning *(specify)*	(01)	02	1

GO TO QUESTION 128 if you circled 01 (Yes) for AT LEAST ONE of the unit and area types listed above.

SKIP TO QUESTION 129 on page 55 if you circled 02 (No) for ALL of the unit and area types listed above.

128. Complete a separate Solid Waste Management Unit (SWMU) Form for EACH unit and area included in your response to Question 127.

This questionnaire contains five SWMU Forms for units and areas that are closed and that used to receive hazardous and/or nonhazardous waste. If your facility has more than five SWMUs, call the Survey Helpline (1-800-635-8850) and we will provide you with additional SWMU Forms—do not photocopy to create additional forms.

After you have completed a SWMU Form for each unit and area identified in Question 127, GO TO QUESTION 129 ON PAGE 55.

Closed SWMUs That Used to Receive Hazardous and/or Nonhazardous Waste

QUESTION 128

SWMU No. 1

128a. What type of SWMU is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank area or system
03 Surface impoundment
04 Waste pile
05 Land treatment area
06 Landfill
07 Incinerator
08 Boiler
09 Furnace
10 Production area contaminated as a result of routine and systematic releases of hazardous wastes or constituents
(11) Other Open Burning *(Specify)*

128b. What is the status of this SWMU? *(Circle one)*

(01) Closed—was used to manage ONLY hazardous waste
02 Closed—was used to manage ONLY nonhazardous waste
03 Closed—was used to manage BOTH hazardous and nonhazardous waste

128c. In what year did this SWMU last receive solid waste?

1966

128d. In what year was solid waste first placed in this SWMU?

1965

128e. What is the total cumulative quantity of solid waste in this SWMU? *(Enter the quantity and circle a unit of measure. If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA")*

i. Quantity ..... < 1

ii. Unit of measure *(Circle one)*

(01) Tons
02 Gallons

128f. What is the area of this SWMU? *(If this SWMU is an incinerator, boiler, or furnace, enter "NA")*

i. Quantity ..... < 1

ii. Unit of measure *(Circle one)*

(01) Acres
02 Square feet

128g. Is this SWMU inside a building? *(Circle one)*

01 Yes
(02) No

128h. What are the top five wastes (by volume) placed in this SWMU?

For each waste, enter a RCRA waste code and a Waste Description Code See Appendix C of the Instructions booklet for a list of RCRA and other waste codes See the inside front cover of this questionnaire for the list of Waste Description Codes If the code requires you to specify, do so in the space provided If the waste IS NOT A RCRA WASTE or one of the other wastes specified in Appendix C, enter "NA" in the RCRA Waste Code column, then enter a Waste Description Code and specify the waste in the space provided.

	RCRA Waste Code	Waste Description Code
No. 1	NA	
Specify		
No. 2		
Specify		
No. 3		
Specify		
No. 4		
Specify		
No. 5		
Specify		

128i. **Do you conduct groundwater monitoring of this SWMU?** *(Circle one)*

01 Yes—facility groundwater monitoring system is designed to individually monitor this SWMU

02 Yes—facility groundwater monitoring system is designed to monitor all or some SWMUs as a group, including this SWMU

(03) No

128j. **Has this SWMU had a release of hazardous material into the environment which required notification under 40 CFR §302.6?** *(Circle one)*

01 Yes *(Go to next question)*

(02) No *(Skip to the note at the end of this SWMU Form)*

128k. **What was the quantity of hazardous material released from this SWMU into the environment?** *(Enter the quantity and circle a unit of measure)*

i. Quantity . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

ii Unit of measure *(Circle one)*

01 Pounds

02 Gallons

128l. **Describe the hazardous material released from this SWMU into the environment.** *(Enter RCRA waste codes from Appendix C of the Instructions booklet to describe the hazardous material If there are no RCRA waste codes for the hazardous material, enter the chemical name.)*

_____

_____

128m. **Where was the hazardous material released to?** *(Circle all that apply)*

01 Soil

02 Groundwater

03 Surface water

04 Air

05 Other _____ *(specify)*

128n. **Was corrective action taken for each of the following?** *(Circle 01 or 02 for each)*

	Yes	No
i. Releases into the soil	01	02
ii. Releases into the groundwater	01	02
iii. Releases into the surface water	01	02
iv Releases into the air	01	02
v Other _____ *(specify)*	01	02

NOTE: GO TO QUESTION 129 ON PAGE 55 IF YOU HAVE COMPLETED A SWMU FORM FOR EACH SWMU YOU INCLUDED IN YOUR RESPONSE TO QUESTION 127.

QUESTION 128

Closed SWMUs That Used to Receive Hazardous and/or Nonhazardous Waste

SWMU No. 2

128a. What type of SWMU is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank area or system
03 Surface impoundment
04 Waste pile
05 Land treatment area
06 Landfill
07 Incinerator
08 Boiler
09 Furnace
10 Production area contaminated as a result of routine and systematic releases of hazardous wastes or constituents
11 Other _____ *(specify)*

128b. What is the status of this SWMU? *(Circle one)*

01 Closed—was used to manage ONLY hazardous waste
02 Closed—was used to manage ONLY nonhazardous waste
03 Closed—was used to manage BOTH hazardous and nonhazardous waste

128c. In what year did this SWMU last receive solid waste?

☐☐☐☐

128d. In what year was solid waste first placed in this SWMU?

☐☐☐☐

128e. What is the total cumulative quantity of solid waste in this SWMU? *(Enter the quantity and circle a unit of measure. If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA.")*

i. Quantity ..... ☐☐☐☐☐☐☐☐☐☐

ii. Unit of measure *(Circle one)*

01 Tons
02 Gallons

128f. What is the area of this SWMU? *(If this SWMU is an incinerator, boiler, or furnace, enter "NA")*

i Quantity ..... ☐☐☐☐☐☐☐☐☐☐

ii. Unit of measure *(Circle one)*

01 Acres
02 Square feet

128g. Is this SWMU inside a building? *(Circle one)*

01 Yes
02 No

128h. What are the top five wastes (by volume) placed in this SWMU?

For each waste, enter a RCRA waste code and a Waste Description Code. See Appendix C of the Instructions booklet for a list of RCRA and other waste codes. See the inside front cover of this questionnaire for the list of Waste Description Codes. If the code requires you to specify, do so in the space provided. If the waste IS NOT A RCRA WASTE or one of the other wastes specified in Appendix C, enter "NA" in the RCRA Waste Code column, then enter a Waste Description Code and specify the waste in the space provided.

	RCRA Waste Code	Waste Description Code
No. 1	☐☐☐☐	☐☐☐
Specify	_____	
No. 2	☐☐☐☐	☐☐☐
Specify	_____	
No. 3	☐☐☐☐	☐☐☐
Specify	_____	
No. 4	☐☐☐☐	☐☐☐
Specify	_____	
No. 5	☐☐☐☐	☐☐☐
Specify	_____	

128i. **Do you conduct groundwater monitoring of this SWMU?** *(Circle one)*

01 Yes—facility groundwater monitoring system is designed to individually monitor this SWMU

02 Yes—facility groundwater monitoring system is designed to monitor all or some SWMUs as a group, including this SWMU

03 No

128j. **Has this SWMU had a release of hazardous material into the environment which required notification under 40 CFR §302.6?** *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to the note at the end of this SWMU Form)*

128k. **What was the quantity of hazardous material released from this SWMU into the environment?** *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . . . | | | | | | | | | | |

ii Unit of measure *(Circle one)*

01 Pounds

02 Gallons

128l. **Describe the hazardous material released from this SWMU into the environment.** *(Enter RCRA waste codes from Appendix C of the Instructions booklet to describe the hazardous material. If there are no RCRA waste codes for the hazardous material, enter the chemical name.)*

_____

_____

128m. **Where was the hazardous material released to?** *(Circle all that apply)*

01 Soil

02 Groundwater

03 Surface water

04 Air

05 Other _____ *(specify)*

128n. **Was corrective action taken for each of the following?** *(Circle 01 or 02 for each)*

	Yes	No
i. Releases into the soil	01	02
ii. Releases into the groundwater	01	02
iii. Releases into the surface water	01	02
iv Releases into the air	01	02
v Other _____ *(specify)*	01	02

NOTE: GO TO QUESTION 129 ON PAGE 55 IF YOU HAVE COMPLETED A SWMU FORM FOR EACH SWMU YOU INCLUDED IN YOUR RESPONSE TO QUESTION 127.

Closed SWMUs That Used to Receive Hazardous and/or Nonhazardous Waste

QUESTION 128

SWMU No. 3

128a. What type of SWMU is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank area or system
03 Surface impoundment
04 Waste pile
05 Land treatment area
06 Landfill
07 Incinerator
08 Boiler
09 Furnace
10 Production area contaminated as a result of routine and systematic releases of hazardous wastes or constituents
11 Other _____ *(specify)*

128b. What is the status of this SWMU? *(Circle one)*

01 Closed—was used to manage ONLY hazardous waste
02 Closed—was used to manage ONLY nonhazardous waste
03 Closed—was used to manage BOTH hazardous and nonhazardous waste

128c. In what year did this SWMU last receive solid waste?

128d. In what year was solid waste first placed in this SWMU?

128e. What is the total cumulative quantity of solid waste in this SWMU? *(Enter the quantity and circle a unit of measure If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA")*

i. Quantity . . . . . | | | | | | | | | |

ii. Unit of measure *(Circle one)*

01 Tons
02 Gallons

128f. What is the area of this SWMU? *(If this SWMU is an incinerator, boiler, or furnace, enter "NA")*

i. Quantity . . . . . | | | | | | | | | |

ii. Unit of measure *(Circle one)*

01 Acres
02 Square feet

128g. Is this SWMU inside a building? *(Circle one)*

01 Yes
02 No

128h. What are the top five wastes (by volume) placed in this SWMU?

For each waste, enter a RCRA waste code and a Waste Description Code See Appendix C of the Instructions booklet for a list of RCRA and other waste codes See the inside front cover of this questionnaire for the list of Waste Description Codes If the code requires you to specify, do so in the space provided. If the waste IS NOT A RCRA WASTE or one of the other wastes specified in Appendix C, enter "NA" in the RCRA Waste Code column, then enter a Waste Description Code and specify the waste in the space provided

	RCRA Waste Code	Waste Description Code
No. 1 . . .		
Specify _____		
No. 2 . . .		
Specify _____		
No. 3 . . .		
Specify _____		
No 4 . . .		
Specify _____		
No. 5 . . .		
Specify _____		

128i. **Do you conduct groundwater monitoring of this SWMU?** *(Circle one)*

01 Yes—facility groundwater monitoring system is designed to individually monitor this SWMU

02 Yes—facility groundwater monitoring system is designed to monitor all or some SWMUs as a group, including this SWMU

03 No

128j. **Has this SWMU had a release of hazardous material into the environment which required notification under 40 CFR §302.6?** *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to the note at the end of this SWMU Form)*

128k. **What was the quantity of hazardous material released from this SWMU into the environment?** *(Enter the quantity and circle a unit of measure)*

i Quantity ....

ii. Unit of measure *(Circle one)*

01 Pounds

02 Gallons

128l. **Describe the hazardous material released from this SWMU into the environment.** *(Enter RCRA waste codes from Appendix C of the Instructions booklet to describe the hazardous material. If there are no RCRA waste codes for the hazardous material, enter the chemical name.)*

_____

_____

128m. **Where was the hazardous material released to?** *(Circle all that apply)*

01 Soil

02 Groundwater

03 Surface water

04 Air

05 Other _____ *(specify)*

128n. **Was corrective action taken for each of the following?** *(Circle 01 or 02 for each)*

	Yes	No
i. Releases into the soil	01	02
ii Releases into the groundwater	01	02
iii. Releases into the surface water	01	02
iv. Releases into the air	01	02
v Other _____ *(specify)*	01	02

NOTE: GO TO QUESTION 129 ON PAGE 55 IF YOU HAVE COMPLETED A SWMU FORM FOR EACH SWMU YOU INCLUDED IN YOUR RESPONSE TO QUESTION 127.

QUESTION 128

Closed SWMUs That Used to Receive Hazardous and/or Nonhazardous Waste

SWMU No. 4

128a. What type of SWMU is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank area or system
03 Surface impoundment
04 Waste pile
05 Land treatment area
06 Landfill
07 Incinerator
08 Boiler
09 Furnace
10 Production area contaminated as a result of routine and systematic releases of hazardous wastes or constituents
11 Other _____ *(specify)*

128b. What is the status of this SWMU? *(Circle one)*

01 Closed—was used to manage ONLY hazardous waste
02 Closed—was used to manage ONLY nonhazardous waste
03 Closed—was used to manage BOTH hazardous and nonhazardous waste

128c. In what year did this SWMU last receive solid waste?

128d. In what year was solid waste first placed in this SWMU?

128e. What is the total cumulative quantity of solid waste in this SWMU? *(Enter the quantity and circle a unit of measure. If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA")*

i. Quantity . . . . . | | | | | | | | | | |

ii. Unit of measure *(Circle one)*

01 Tons
02 Gallons

128f. What is the area of this SWMU? *(If this SWMU is an incinerator, boiler, or furnace, enter "NA")*

i. Quantity . . . . . | | | | | | | | | | |

ii. Unit of measure *(Circle one)*

01 Acres
02 Square feet

128g. Is this SWMU inside a building? *(Circle one)*

01 Yes
02 No

128h. What are the top five wastes (by volume) placed in this SWMU?

For each waste, enter a RCRA waste code and a Waste Description Code. See Appendix C of the Instructions booklet for a list of RCRA and other waste codes. See the inside front cover of this questionnaire for the list of Waste Description Codes. If the code requires you to specify, do so in the space provided. If the waste IS NOT A RCRA WASTE or one of the other wastes specified in Appendix C, enter "NA" in the RCRA Waste Code column, then enter a Waste Description Code and specify the waste in the space provided.

	RCRA Waste Code	Waste Description Code
No. 1 . . .		
Specify _____		
No. 2 . . .		
Specify _____		
No. 3 . . .		
Specify _____		
No. 4 . . .		
Specify _____		
No. 5 . . .		
Specify _____		

128i. Do you conduct groundwater monitoring of this SWMU? *(Circle one)*

01 Yes—facility groundwater monitoring system is designed to individually monitor this SWMU

02 Yes—facility groundwater monitoring system is designed to monitor all or some SWMUs as a group, including this SWMU

03 No

128j. Has this SWMU had a release of hazardous material into the environment which required notification under 40 CFR §302.6? *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to the note at the end of this SWMU Form)*

128k. What was the quantity of hazardous material released from this SWMU into the environment? *(Enter the quantity and circle a unit of measure)*

i Quantity . . . . | | | | | | | | | |

ii. Unit of measure *(Circle one)*

01 Pounds

02 Gallons

128l. Describe the hazardous material released from this SWMU into the environment. *(Enter RCRA waste codes from Appendix C of the Instructions booklet to describe the hazardous material. If there are no RCRA waste codes for the hazardous material, enter the chemical name.)*

_____

_____

128m. Where was the hazardous material released to? *(Circle all that apply)*

01 Soil

02 Groundwater

03 Surface water

04 Air

05 Other _____ *(specify)*

128n. Was corrective action taken for each of the following? *(Circle 01 or 02 for each)*

	Yes	No
i. Releases into the soil	01	02
ii. Releases into the groundwater	01	02
iii. Releases into the surface water	01	02
iv. Releases into the air	01	02
v. Other _____ *(specify)*	01	02

NOTE: GO TO QUESTION 129 ON PAGE 55 IF YOU HAVE COMPLETED A SWMU FORM FOR EACH SWMU YOU INCLUDED IN YOUR RESPONSE TO QUESTION 127.

QUESTION 128

Closed SWMUs That Used to Receive Hazardous and/or Nonhazardous Waste

SWMU No. 5

128a. What type of SWMU is this? *(Circle one)*

01 Container storage or accumulation area
02 Tank area or system
03 Surface impoundment
04 Waste pile
05 Land treatment area
06 Landfill
07 Incinerator
08 Boiler
09 Furnace
10 Production area contaminated as a result of routine and systematic releases of hazardous wastes or constituents
11 Other _____ *(specify)*

128b. What is the status of this SWMU? *(Circle one)*

01 Closed—was used to manage ONLY hazardous waste
02 Closed—was used to manage ONLY nonhazardous waste
03 Closed—was used to manage BOTH hazardous and nonhazardous waste

128c. In what year did this SWMU last receive solid waste?

[ ][ ][ ][ ]

128d. In what year was solid waste first placed in this SWMU?

[ ][ ][ ][ ]

128e. What is the total cumulative quantity of solid waste in this SWMU? *(Enter the quantity and circle a unit of measure. If this SWMU is a unit other than a landfill, surface impoundment, or waste pile, enter "NA")*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

ii. Unit of measure *(Circle one)*

01 Tons
02 Gallons

128f. What is the area of this SWMU? *(If this SWMU is an incinerator, boiler, or furnace, enter "NA")*

i. Quantity . . . . . [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

ii. Unit of measure *(Circle one)*

01 Acres
02 Square feet

128g. Is this SWMU inside a building? *(Circle one)*

01 Yes
02 No

128h. What are the top five wastes (by volume) placed in this SWMU?

For each waste, enter a RCRA waste code and a Waste Description Code. See Appendix C of the Instructions booklet for a list of RCRA and other waste codes. See the inside front cover of this questionnaire for the list of Waste Description Codes. If the code requires you to specify, do so in the space provided. If the waste IS NOT A RCRA WASTE or one of the other wastes specified in Appendix C, enter "NA" in the RCRA Waste Code column, then enter a Waste Description Code and specify the waste in the space provided

	RCRA Waste Code	Waste Description Code
No. 1 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 2 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 3 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 4 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		
No. 5 . . .	[ ][ ][ ][ ]	[ ][ ][ ]
Specify _____		

128l. **Do you conduct groundwater monitoring of this SWMU?** *(Circle one)*

01 Yes—facility groundwater monitoring system is designed to individually monitor this SWMU

02 Yes—facility groundwater monitoring system is designed to monitor all or some SWMUs as a group, including this SWMU

03 No

128j. **Has this SWMU had a release of hazardous material into the environment which required notification under 40 CFR §302.6?** *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to the note at the end of this SWMU Form)*

128k. **What was the quantity of hazardous material released from this SWMU into the environment?** *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . | | | | | | | | | |

ii Unit of measure *(Circle one)*

01 Pounds

02 Gallons

128l. **Describe the hazardous material released from this SWMU into the environment.** *(Enter RCRA waste codes from Appendix C of the Instructions booklet to describe the hazardous material If there are no RCRA waste codes for the hazardous material, enter the chemical name)*

_____

_____

128m. **Where was the hazardous material released to?** *(Circle all that apply)*

01 Soil

02 Groundwater

03 Surface water

04 Air

05 Other _____ *(specify)*

128n. **Was corrective action taken for each of the following?** *(Circle 01 or 02 for each)*

	Yes	No
i Releases into the soil	01	02
ii. Releases into the groundwater	01	02
iii. Releases into the surface water	01	02
iv Releases into the air	01	02
v. Other _____ *(specify)*	01	02

NOTE: GO TO QUESTION 129 ON PAGE 55 IF YOU HAVE COMPLETED A SWMU FORM FOR EACH SWMU YOU INCLUDED IN YOUR RESPONSE TO QUESTION 127.

CLOSURE OF SURFACE IMPOUNDMENTS

129. Does this facility have onsite any surface impoundments that meet ALL of the following criteria?

- **Hazardous waste has been added to them in the past for treatment, storage, or disposal.**
- **Not currently in service—hazardous waste will NOT be added to them in the future for treatment, storage, or disposal.**
- **Not yet undergone closure, currently undergoing closure, or closed during 1986.**

(Circle one)

01 Yes *(Go to next question)*
(02) No *(Skip to Question 137 on page 59)*

130. How many surface impoundments onsite at this facility meet the criteria specified in Question 129?

☐☐

131. Did any of the surface impoundments included in your response to Question 130 undergo closure during 1986? *(Circle one)*

01 Yes *(Go to next question)*
02 No *(Skip to Question 133)*

132. Complete the following table for surface impoundments that were undergoing closure during 1986.

Surface Impoundments Undergoing Closure During 1986	*Enter the quantity specified; if none, enter zero.*
Question	**Quantity**
a. How many surface impoundments were undergoing closure during 1986?	
i. Clean closure—removal of all hazardous waste	☐☐
ii. Closure as a landfill—removal of some or no hazardous waste	☐☐
b. How many of these surface impoundments:	
i. Completed closure during 1986?	☐☐
ii. Completed or will complete closure in 1987?	☐☐
iii. Are expected to complete closure in 1988?	☐☐
c. What quantity of hazardous waste was or is expected to be removed from these surface impoundments? *(Enter the quantity in tons)*	
i. Quantity removed during 1986	☐☐☐☐☐☐☐☐
ii. Quantity removed or expected to be removed in 1987	☐☐☐☐☐☐☐☐
iii. Quantity expected to be removed in 1988	☐☐☐☐☐☐☐☐
d. For those surface impoundments that underwent **closure as a landfill** during 1986, what quantity of hazardous waste will remain in the closed surface impoundments? *(Enter the quantity in tons)*	☐☐☐☐☐☐☐☐

NOTE: *Report the hazardous waste removed from surface impoundments onsite during 1986 in Questionnaire GB, "Hazardous Waste Characterization."*

133. Did any of the surface impoundments included in your response to Question 130 begin closure in 1987? *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to Question 135)*

134. Complete the following table for surface impoundments that began closure in 1987.

Surface Impoundments That Began Closure in 1987	*Enter the quantity specified; if none, enter zero.*
Question	**Quantity**
a. How many surface impoundments began closure in 1987?	
i. Clean closure—removal of all hazardous waste	
ii. Closure as a landfill—removal of some or no hazardous waste	
b. How many of these surface impoundments completed closure in 1987?	
c. What quantity of hazardous waste was or is expected to be removed from these surface impoundments? *(Enter the quantity in tons)*	
i. Quantity removed or expected to be removed in 1987	
ii. Quantity expected to be removed in 1988	
d. For those surface impoundments that began **closure as a landfill** in 1987, what quantity of hazardous waste is expected to remain in the closed surface impoundments? *(Enter the quantity in tons)*	

135. Are any of the surface impoundments included in your response to Question 130 expected to begin closure in 1988? *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to Question 137)*

136. Complete the following table for surface impoundments that are expected to begin closure in 1988.

Surface Impoundments That Are Expected to Begin Closure in 1988	*Enter the quantity specified; if none, enter zero*
Question	**Quantity**
a. How many surface impoundments will begin closure in 1988?	
i. Clean closure—removal of all hazardous waste	☐☐
ii. Closure as a landfill—removal of some or no hazardous waste	☐☐
b. What quantity of hazardous waste is expected to be removed from these surface impoundments? *(Enter the quantity in tons)*	
i. Quantity expected to be removed in 1988	☐☐☐☐☐☐☐☐
ii. Quantity expected to be removed after 1988	☐☐☐☐☐☐☐☐
c. For those surface impoundments that are expected to begin **closure as a landfill** in 1988, what quantity of hazardous waste is expected to remain in the closed surface impoundments? *(Enter the quantity in tons)*	☐☐☐☐☐☐☐☐

CLOSURE OF WASTE PILES

137. Does this facility have onsite any waste piles that meet ALL of the following criteria?

- **Hazardous waste has been added to them in the past for treatment or storage.**
- **Not currently in service—hazardous waste will NOT be added to them in the future for treatment or storage.**
- **Not yet undergone closure, currently undergoing closure, or closed during 1986.**

(Circle one)

01 Yes *(Go to next question)*
(02) No *(Skip to the note on page 63 prior to Question 145)*

138. How many waste piles onsite at this facility meet the criteria specified in Question 137?

☐☐

139. Did any of the waste piles included in your response to Question 138 undergo closure during 1986? *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to Question 141)*

140. Complete the following table for waste piles that were undergoing closure during 1986.

Waste Piles Undergoing Closure During 1986	*Enter the quantity specified; if none, enter zero.*
Question	**Quantity**
a. How many waste piles were undergoing closure during 1986?	
i. Clean closure—removal of all hazardous waste	
ii. Closure as a landfill—removal of some or no hazardous waste	
b. How many of these waste piles:	
i. Completed closure during 1986?	
ii. Completed or will complete closure in 1987?	
iii. Are expected to complete closure in 1988?	
c. What quantity of hazardous waste was or is expected to be removed from these waste piles? *(Enter the quantity in tons)*	
i. Quantity removed during 1986	
ii. Quantity removed or expected to be removed in 1987	
iii. Quantity expected to be removed in 1988	
d. For those waste piles that underwent **closure as a landfill** during 1986, what quantity of hazardous waste will remain in the closed waste piles? *(Enter the quantity in tons)*	

NOTE: *Report the hazardous waste removed from waste piles onsite during 1986 in Questionnaire GB, "Hazardous Waste Characterization."*

141. Did any of the waste piles included in your response to Question 138 begin closure in 1987? *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to Question 143)*

142. Complete the following table for waste piles that began closure in 1987.

Waste Piles That Began Closure in 1987	*Enter the quantity specified, if none, enter zero.*
Question	**Quantity**
a. How many waste piles began closure in 1987?	
i. Clean closure—removal of all hazardous waste	
ii. Closure as a landfill—removal of some or no hazardous waste	
b. How many of these waste piles completed closure in 1987?	
c. What quantity of hazardous waste was or is expected to be removed from these waste piles? *(Enter the quantity in tons)*	
i. Quantity removed or expected to be removed in 1987	
ii. Quantity expected to be removed in 1988	
d. For those waste piles that began **closure as a landfill** in 1987, what quantity of hazardous waste is expected to remain in the closed waste piles? *(Enter the quantity in tons)*	

143. Are any of the waste piles included in your response to Question 138 expected to begin closure in 1988? *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to the note on page 63 prior to Question 145)*

144. Complete the following table for waste piles that are expected to begin closure in 1988.

Waste Piles That Are Expected to Begin Closure in 1988	*Enter the quantity specified; if none, enter zero.*
Question	**Quantity**
a. How many waste piles will begin closure in 1988?	
i. Clean closure—removal of all hazardous waste	
ii. Closure as a landfill—removal of some or no hazardous waste	
b. What quantity of hazardous waste is expected to be removed from these waste piles? *(Enter the quantity in tons)*	
i. Quantity expected to be removed in 1988	
ii. Quantity expected to be removed after 1988	
c. For those waste piles that are expected to begin **closure as a landfill** in 1988, what quantity of hazardous waste is expected to remain in the closed waste piles? *(Enter the quantity in tons)*	

ACCUMULATION IN CONTAINERS HELD IN AREAS REGULATED UNDER THE 90-DAY RULE

NOTE: Hazardous waste accumulated in containers (stored under the 90-day rule) must:

- Have been **generated onsite.**
- Be held for periods of **90 days or less** (or 180/270 days for small quantity generators).

Do not report satellite accumulation areas in Questions 145 through 147; satellite accumulation areas are addressed in Questions 148 through 150. Do not report the accumulation of hazardous waste in tanks in this section; this is addressed in Questionnaire GI, "Tank Systems."

145. Does this facility accumulate hazardous waste onsite in drums or containers in areas that are regulated under the 90-day rule and that do not have a RCRA permit or interim status? *(Circle one)*

(01) Yes *(Go to next question)*
02 No *(Skip to Question 148 on page 69)*

146. How many areas that are regulated under the 90-day rule and that do not have a RCRA permit or interim status are used by this facility to accumulate hazardous waste in containers?

	4

147. Complete a separate Accumulation Area Form for EACH accumulation area onsite at this facility that you included in your response to Question 146.

This questionnaire contains five Accumulation Area Forms. If your facility has more than five separate accumulation areas onsite, call the Survey Helpline (1-800-635-8850) and we will provide you with additional Accumulation Area Forms—do not photocopy to create additional forms.

After you have completed an Accumulation Area Form for each accumulation area onsite that you included in your response to Question 146, GO TO QUESTION 148 ON PAGE 69.

QUESTION 147

AREA No. 1

147a. What is the typical number of containers in this accumulation area?

40 containers

147b. What was the typical quantity of hazardous waste at any given time in this accumulation area? *(Enter the quantity and circle a unit of measure)*

i. Quantity 1

ii. Unit of measure *(Circle one)*

(01) Tons
02 Gallons

147c. What was the total quantity of hazardous waste that entered this accumulation area during 1986? *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . 45

ii Unit of measure *(Circle one)*

(01) Tons
02 Gallons

147d. What is the typical residence time for hazardous waste in this accumulation area?

30 days

147e. At any given time, what is the total capacity of this accumulation area? *(Enter the capacity and circle a unit of measure)*

i. Capacity 2

ii. Unit of measure *(Circle one)*

(01) Tons
02 Gallons

147f. How is the surrounding area of this accumulation area lined or protected? *(Circle all that apply)*

01 Synthetic liner
02 Recompacted clay liner
(03) Concrete pad
04 Dike or berm
(05) Inside building
06 Other _____
(specify)

147g. List a RCRA waste code for each type of hazardous waste that entered this accumulation area during 1986. *(See Appendix C of the Instructions booklet for a list of RCRA and other waste codes)*

a.	D001	n.	
b	D003	o	
c		p.	
d		q	
e.		r	
f		s	
g		t.	
h		u	
i.		v.	
j.		w	
k.		x.	
l.		y.	
m.		z.	

NOTE: GO TO QUESTION 148 ON PAGE 69 IF YOU HAVE COMPLETED AN ACCUMULATION AREA FORM FOR EACH ACCUMULATION AREA YOU INCLUDED IN YOUR RESPONSE TO QUESTION 146.

QUESTION 147

AREA No. 2

147a. What is the typical number of containers in this accumulation area?

60 containers

147b. What was the typical quantity of hazardous waste at any given time in this accumulation area? *(Enter the quantity and circle a unit of measure)*

i. Quantity 2

ii. Unit of measure *(Circle one)*

(01) Tons
02 Gallons

147c. What was the total quantity of hazardous waste that entered this accumulation area during 1986? *(Enter the quantity and circle a unit of measure)*

i Quantity 61

ii Unit of measure *(Circle one)*

(01) Tons
02 Gallons

147d. What is the typical residence time for hazardous waste in this accumulation area?

30 days

147e. At any given time, what is the total capacity of this accumulation area? *(Enter the capacity and circle a unit of measure)*

i. Capacity 4

ii. Unit of measure *(Circle one)*

(01) Tons
02 Gallons

147f. How is the surrounding area of this accumulation area lined or protected? *(Circle all that apply)*

01 Synthetic liner
02 Recompacted clay liner
(03) Concrete pad
04 Dike or berm
(05) Inside building
06 Other _____
(specify)

147g. List a RCRA waste code for each type of hazardous waste that entered this accumulation area during 1986. *(See Appendix C of the Instructions booklet for a list of RCRA and other waste codes.)*

a.	D001	n.	
b	D003	o	
c	XAS8	p.	
d.	F001	q.	
e.	U158	r.	
f.		s.	
g		t.	
h.		u	
i		v	
j.		w.	
k.		x.	
l.		y.	
m.		z.	

NOTE: GO TO QUESTION 148 ON PAGE 69 IF YOU HAVE COMPLETED AN ACCUMULATION AREA FORM FOR EACH ACCUMULATION AREA YOU INCLUDED IN YOUR RESPONSE TO QUESTION 146.

QUESTION 147

AREA No. 3

147a. What is the typical number of containers in this accumulation area?

	2	5

containers

147b. What was the typical quantity of hazardous waste at any given time in this accumulation area? *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . . | | | | | | | | | | 1 |

ii. Unit of measure *(Circle one)*

(01) Tons

02 Gallons

147c. What was the total quantity of hazardous waste that entered this accumulation area during 1986? *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . . | | | | | | | | | | 6 |

ii Unit of measure *(Circle one)*

(01) Tons

02 Gallons

147d. What is the typical residence time for hazardous waste in this accumulation area?

3	0

days

147e. At any given time, what is the total capacity of this accumulation area? *(Enter the capacity and circle a unit of measure)*

i. Capacity . . . . . | | | | | | | | | | 2 |

ii. Unit of measure *(Circle one)*

(01) Tons

02 Gallons

147f. How is the surrounding area of this accumulation area lined or protected? *(Circle all that apply)*

01 Synthetic liner

02 Recompacted clay liner

(03) Concrete pad

04 Dike or berm

(05) Inside building

06 Other _____

(specify)

147g. List a RCRA waste code for each type of hazardous waste that entered this accumulation area during 1986. *(See Appendix C of the Instructions booklet for a list of RCRA and other waste codes.)*

a	D001	n.	
b		o	
c		p	
d.		q.	
e		r.	
f		s	
g		t	
h		u	
i		v	
j.		w.	
k		x.	
l.		y.	
m.		z.	

NOTE: GO TO QUESTION 148 ON PAGE 69 IF YOU HAVE COMPLETED AN ACCUMULATION AREA FORM FOR EACH ACCUMULATION AREA YOU INCLUDED IN YOUR RESPONSE TO QUESTION 146.

QUESTION 147

AREA No. 4

147a. What is the typical number of containers in this accumulation area?

	2	5	containers

147b. What was the typical quantity of hazardous waste at any given time in this accumulation area? *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . . . | | | | | | | | | 1 |

ii. Unit of measure *(Circle one)*

(01) Tons
02 Gallons

147c. What was the total quantity of hazardous waste that entered this accumulation area during 1986? *(Enter the quantity and circle a unit of measure)*

i Quantity . . . . | | | | | | | | | 3 |

ii. Unit of measure *(Circle one)*

(01) Tons
02 Gallons

147d. What is the typical residence time for hazardous waste in this accumulation area?

3	0	days

147e. At any given time, what is the total capacity of this accumulation area? *(Enter the capacity and circle a unit of measure)*

i. Capacity . . . . . | | | | | | | | | 1 |

ii. Unit of measure *(Circle one)*

(01) Tons
02 Gallons

147f. How is the surrounding area of this accumulation area lined or protected? *(Circle all that apply)*

01 Synthetic liner
02 Recompacted clay liner
03 Concrete pad
04 Dike or berm
(05) Inside building
06 Other _____
(specify)

147g. List a RCRA waste code for each type of hazardous waste that entered this accumulation area during 1986. *(See Appendix C of the Instructions booklet for a list of RCRA and other waste codes.)*

a.	D001	n.	
b	D003	o	
c		p	
d.		q.	
e.		r.	
f.		s	
g		t.	
h		u	
i		v	
j.		w.	
k.		x	
l.		y.	
m		z.	

NOTE: GO TO QUESTION 148 ON PAGE 69 IF YOU HAVE COMPLETED AN ACCUMULATION AREA FORM FOR EACH ACCUMULATION AREA YOU INCLUDED IN YOUR RESPONSE TO QUESTION 146.

QUESTION 147

AREA No. 5

147a. What is the typical number of containers in this accumulation area?

☐☐☐ containers

147b. What was the typical quantity of hazardous waste at any given time in this accumulation area? *(Enter the quantity and circle a unit of measure)*

i. Quantity . . . . ☐☐☐☐☐☐☐☐☐

ii. Unit of measure *(Circle one)*

01 Tons
02 Gallons

147c. What was the total quantity of hazardous waste that entered this accumulation area during 1986? *(Enter the quantity and circle a unit of measure)*

i. Quantity ☐☐☐☐☐☐☐☐☐

ii. Unit of measure *(Circle one)*

01 Tons
02 Gallons

147d. What is the typical residence time for hazardous waste in this accumulation area?

☐☐ days

147e. At any given time, what is the total capacity of this accumulation area? *(Enter the capacity and circle a unit of measure)*

i. Capacity . . . . . ☐☐☐☐☐☐☐☐☐

ii. Unit of measure *(Circle one)*

01 Tons
02 Gallons

147f. How is the surrounding area of this accumulation area lined or protected? *(Circle all that apply)*

01 Synthetic liner
02 Recompacted clay liner
03 Concrete pad
04 Dike or berm
05 Inside building
06 Other _____
(specify)

147g. List a RCRA waste code for each type of hazardous waste that entered this accumulation area during 1986. *(See Appendix C of the Instructions booklet for a list of RCRA and other waste codes.)*

a.	☐☐☐☐	n.	☐☐☐☐
b	☐☐☐☐	o	☐☐☐☐
c	☐☐☐☐	p	☐☐☐☐
d	☐☐☐☐	q.	☐☐☐☐
e.	☐☐☐☐	r.	☐☐☐☐
f.	☐☐☐☐	s.	☐☐☐☐
g	☐☐☐☐	t.	☐☐☐☐
h	☐☐☐☐	u	☐☐☐☐
i.	☐☐☐☐	v	☐☐☐☐
j.	☐☐☐☐	w	☐☐☐☐
k.	☐☐☐☐	x	☐☐☐☐
l.	☐☐☐☐	y.	☐☐☐☐
m.	☐☐☐☐	z.	☐☐☐☐

NOTE. GO TO QUESTION 148 ON PAGE 69 IF YOU HAVE COMPLETED AN ACCUMULATION AREA FORM FOR EACH ACCUMULATION AREA YOU INCLUDED IN YOUR RESPONSE TO QUESTION 146.

SATELLITE ACCUMULATION AREAS

148. Does this facility have onsite any hazardous waste satellite accumulation areas? *(Circle one)*

A ***satellite accumulation area*** is an area where a facility accumulates hazardous waste in containers in quantities less than 55 gallons (or one quart for acutely hazardous waste) at or near the point of generation where hazardous waste initially accumulates.

01 Yes *(Go to next question)*
(02) No *(Skip to Question 151 on page 72)*

149. Complete the following table on the accumulation of hazardous waste in satellite accumulation areas.

Do not include in your answer any accumulation areas you reported in Question 147.

Accumulation of Hazardous Waste in Satellite Accumulation Areas	*Enter the quantities and where appropriate circle a unit of measure. If none, enter zero. Sum information for multiple satellite accumulation areas.*	
Question	**Quantity**	**Unit of measure** *(Circle one)* **Ton** **Gal**
a. Total number of satellite accumulation areas onsite	☐☐☐	
b. Total quantity of hazardous waste held in satellite accumulation areas during 1986	☐☐☐☐☐☐☐☐☐	01 02
c. Typical quantity of hazardous waste held in satellite accumulation areas at any given time	☐☐☐☐☐☐☐☐☐	01 02
d. Typical residence time	☐☐ days	
e. Percentage of the quantity of hazardous waste in "b" that was held in areas with a synthetic or concrete liner	☐☐☐ %	
f. Number of satellite accumulation areas that are inside a building	☐☐☐	
g. What percentage of hazardous waste goes to the management operations listed below IMMEDIATELY after it is removed from the satellite accumulation area?		
i. Other accumulation onsite in containers (90-day units)	☐☐☐ %	
ii. Other accumulation onsite in tanks (90-day units)	☐☐☐ %	
iii. Storage onsite in containers held in RCRA permitted or interim status storage areas	☐☐☐ %	
iv. Storage onsite in RCRA permitted or interim status tanks	☐☐☐ %	
v. Treatment onsite	☐☐☐ %	
vi. Recycling onsite	☐☐☐ %	
vii. Disposal onsite	☐☐☐ %	
viii. Sent offsite for management	☐☐☐ %	

150. List a RCRA waste code for each type of hazardous waste that entered satellite accumulation areas during 1986. *(See Appendix C of the Instructions booklet for a list of RCRA and other waste codes.)*

a.	j.	s.
b.	k.	t.
c.	l.	u.
d.	m.	v.
e.	n.	w.
f.	o.	x.
g.	p.	y.
h.	q.	z.
i.	r.	

151. Did this facility complete EPA's National Survey of Hazardous Waste Treatment, Storage, Disposal and Recycling Facilities that was mailed to TSDR facilities in the summer of 1987? *(Circle one)*

(01) Yes *(Skip to Question 156 on page 79. Because your facility completed EPA's National Survey of Hazardous Waste Treatment, Storage, Disposal, and Recycling Facilities, you do not need to complete Questionnaires QC through GI. However, YOU NEED TO COMPLETE Questionnaire GB, "Hazardous Waste Characterization." This questionnaire asks for information on each hazardous waste that was generated onsite during 1986.)*

02 No *(Go to next question)*

152. Does this facility plan to become a treatment, storage, disposal, or recycling (TSDR) facility before January 1992? *(Circle one)*

01 Yes *(Go to next question)*

02 No *(Skip to Question 154)*

153. What hazardous waste management activities does this facility plan to conduct onsite after it has received a permit to treat, store, or dispose of hazardous waste? *(Circle all that apply)*

01 Incineration
02 Reuse as fuel
03 Fuel blending
04 Solidification/stabilization
05 Solvent or liquid organic recovery for reuse
06 Metals recovery for reuse
07 Wastewater treatment
08 Other treatment/recovery
09 Storage/treatment in waste pile
10 Storage/treatment/disposal in surface impoundment
11 Landfill
12 Land treatment
13 Underground injection
14 Other _____
(specify)

154. Complete the following table on this facility's ONSITE hazardous waste management activities.

Circle 01, "Yes," or 02, "No," for each hazardous waste management activity listed in the table.

Answer "Yes" if this facility:

- *Currently conducts the activity onsite to manage hazardous waste.*
- *Conducted the activity onsite during 1986 to manage hazardous waste, but the activity is no longer operational.*
- *Plans to conduct the activity onsite before January 1992 to manage hazardous waste.*

Answer "Yes" if the activity is exempt from RCRA permitting requirements, for example, processes that pretreat hazardous wastewater prior to discharge under a NPDES permit or prior to discharge to a POTW.

Answer "No" if the activity is conducted offsite but not onsite.

Hazardous Waste Management Activities Onsite	*Circle 01 or 02 for EACH hazardous waste management activity listed below.*	
	Did/Does/Will this facility have hazardous waste management activities of this type onsite? *(Circle one)*	
Type of activity	**Yes**	**No**
a. Fuel blending — Questionnaire GC	01	02
b. Reuse as fuel — Questionnaire GD	01	02
c. Wastewater treatment — Questionnaire GE	01	02
d. Metals recovery from hazardous waste for reuse — Questionnaire GF	01	02
e. Solvent and liquid organic recovery from hazardous waste for reuse — Questionnaire GG	01	02
f. Other recovery process — Questionnaire GH	01	02
g. Treatment, storage, recovery for reuse, or accumulation of hazardous waste in tanks — Questionnaire GI	01	02

Following each type of activity listed in the table above is the questionnaire that should be completed if this hazardous waste management activity was conducted onsite during 1986 (but is no longer operational), is currently conducted onsite, or will be conducted onsite before January 1992. If you circle 01 (Yes) for a type of activity, you need to complete the questionnaire specified and return it in the enclosed envelope. It is not necessary to return any questionnaires you were not required to complete. In addition, you need to complete Questionnaire GB, "Hazardous Waste Characterization." This questionnaire asks for information on each hazardous waste that was generated onsite during 1986. If you have any questions as to what questionnaires you need to complete for your facility, call the Survey Helpline (1-800-635-8850).

155. In order to develop hazardous waste regulations over the next few years, EPA needs to understand the flow of waste within facilities that manage hazardous waste. This and the other questionnaires used in this survey ask important questions about the individual hazardous waste management operations onsite at this facility. In order for us to see how these operations relate to one another, complete (1) a general facility-wide schematic or flow diagram showing the hazardous waste management activities and operations this facility has and how they relate to one another; and (2) detailed schematics (as many as necessary) of the treatment and recycling operations identified in the general facility-wide schematic, showing how individual units within the systems and the processes that occur in them relate to one another.

Prior to completing the schematics, assign a number to EACH hazardous waste tank onsite at this facility. Include only tanks that are used for the management of hazardous waste. The tanks should be numbered sequentially starting with number 1 (for example, tanks 1, 2, 3, 4, 5). These tank numbers will be used throughout the questionnaires in this survey to identify which tanks are used with a particular process.

Refer to Appendix A of the Instructions booklet when completing the schematics for a list of treatment, recycling, accumulation, storage, and disposal process codes and Air Pollution Control Device (APCD) codes.

You may find it easier to modify existing diagrams in response to this question. If you do so, be sure to label all processes and number all tanks. Attach all schematics to Questionnaire GA. (See Figures 1, 2, and 3 for examples of how to draw, label, and organize your schematics.) Be sure the people completing the questionnaires have a copy of the appropriate schematics.

GENERAL FACILITY-WIDE SCHEMATIC

1. Draw a box for each of the hazardous waste treatment, storage, accumulation, and recovery operations that are **currently operating** or that are **temporarily not operating** onsite. Operations that are no longer operational or that are planned do not need to be represented on the schematic. Label each box with a simple description of the type of operation (for example, "accumulation in containers," "wastewater treatment system"). NOTE that more detailed descriptions of treatment and recycling operations showing the types of processes and the individual units in which they occur will be required in the detailed schematics.

   Include a box to indicate any closed-loop recovery systems or totally enclosed treatment units that are present at this facility. However, you need not describe them in detail and you should not report them anywhere else in this survey.

   Operations that are ***currently operating*** are those that are currently being used onsite to manage hazardous waste. Operations that are ***temporarily not operating*** are those that have been used onsite in the past to manage hazardous waste AND that will be used onsite in the future to manage hazardous waste.

2. Identify where waste, including treatment residuals, enters or exits an operation by drawing and labeling arrows leading to and from it. Indicate whether waste entering/exiting an operation is hazardous or nonhazardous by writing HW or NHW.

3. Indicate the point at which residuals that are not managed onsite are sent offsite.

4. General schematics must identify every treatment and recycling operation that is broken down further in the detailed schematics (if detailed schematics are necessary to adequately show all onsite treatment or recycling operations).

DETAILED SCHEMATIC(S)

Complete a detailed schematic for EACH treatment or recycling operation identified in the general facility-wide schematic, showing the types of processes used and any tanks in which these processes occur. Use a separate page for each schematic.

1. Draw a box for each individual unit of the hazardous waste treatment or recycling operation that is currently operating or temporarily not operating onsite. Show all processes occurring in units onsite that are listed in Appendix A of the Instructions booklet. To label each box, use either the name of the process or the process code.
2. Every hazardous waste treatment or recycling process identified in the detailed schematics should be reported in at least one of the Questionnaires GC through GH. It is critical that all entries on the detailed schematics are consistent with answers that you provide to the questions in Questionnaires GC through GI.
3. For each process that uses tanks, enter "tank" and the identification number (assigned by you for this survey) in the box. This is necessary so that we can see how the individual units used for these processes relate to one another. If more than one tank is used for a process, simply write the range of numbers as "Tanks 13-15." If the same tank is used for more than one process, repeat the tank number for each process in which it is used. It is critical for our analysis that the tank numbers appear on the detailed schematics and that they agree with the numbers identified in the questionnaires.
4. Use arrows with labels to show where reagents or chemical additives enter a process.
5. Identify where waste, including treatment residuals, enters or exits a process by drawing and labeling arrows leading to and from it. INDICATE whether waste entering and/or exiting a process is hazardous or nonhazardous by writing HW or NHW. Wherever possible, identify the wastes in general terms in parentheses—for example, "HW (dewatered sludge)."
6. Indicate the point at which residuals that are not managed onsite are sent offsite.
7. Indicate where wastes originated, including if they came from a system described in another detailed schematic (for example, "from wastewater treatment system #2, tank #9 effluent").
8. Indicate locations to which system discharges are routed, including routings to other detailed schematics (for example, "to wastewater treatment system #2). DO NOT INDICATE that a system discharge goes, for example, "to process 63WT," if there is more than one process "63WT," unless you state which "63WT" (for example, "to process 63WT, tank #4").
9. Indicate all Air Pollution Control Devices (APCDs) using the list of codes provided in Appendix A of the Instructions booklet.

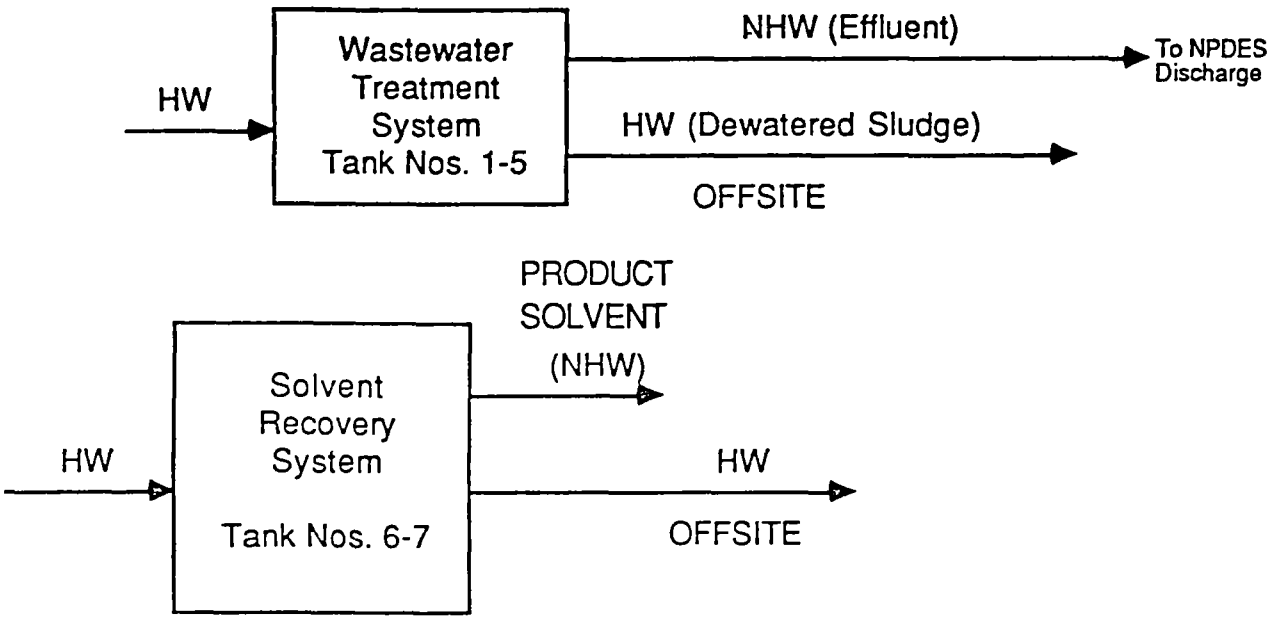

Figure 1. Example of a facility schematic showing all hazardous waste management operations at a facility. (See Figures 2 and 3 for detailed schematics of the wastewater treatment system and the solvent recovery system.)

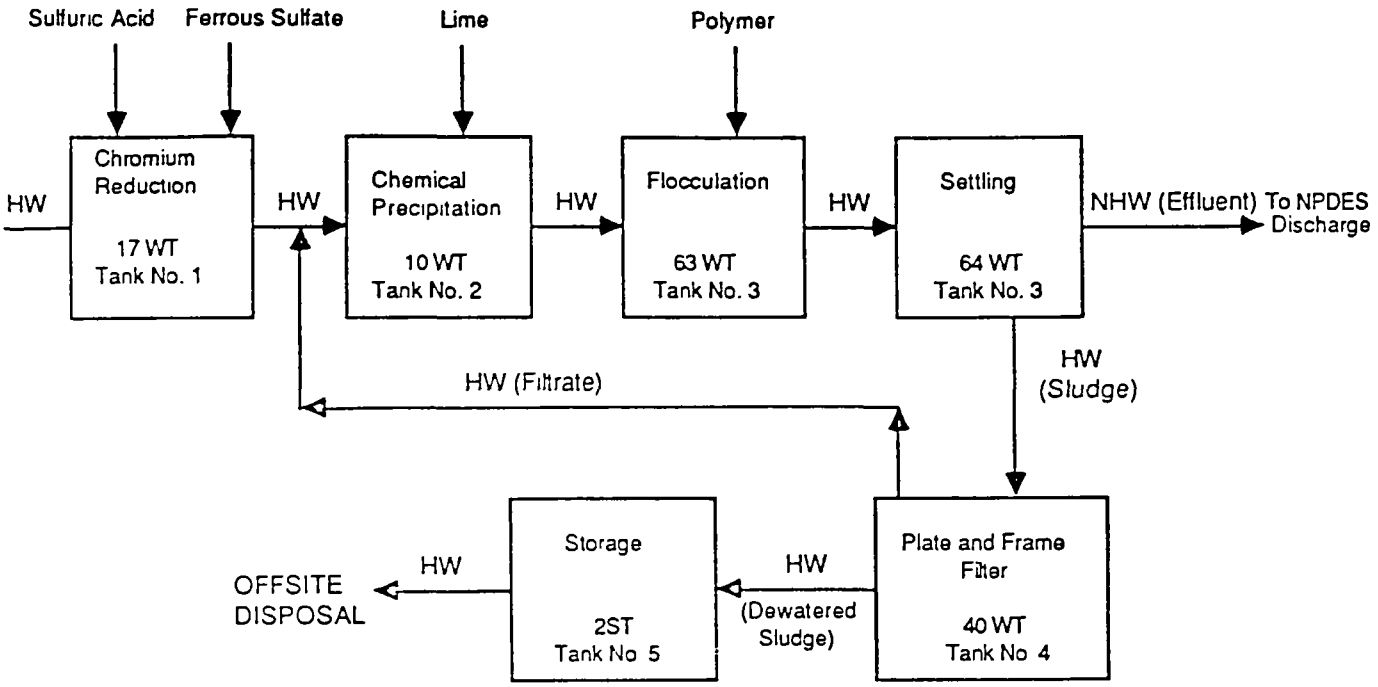

Figure 2. Example of a wastewater treatment system.

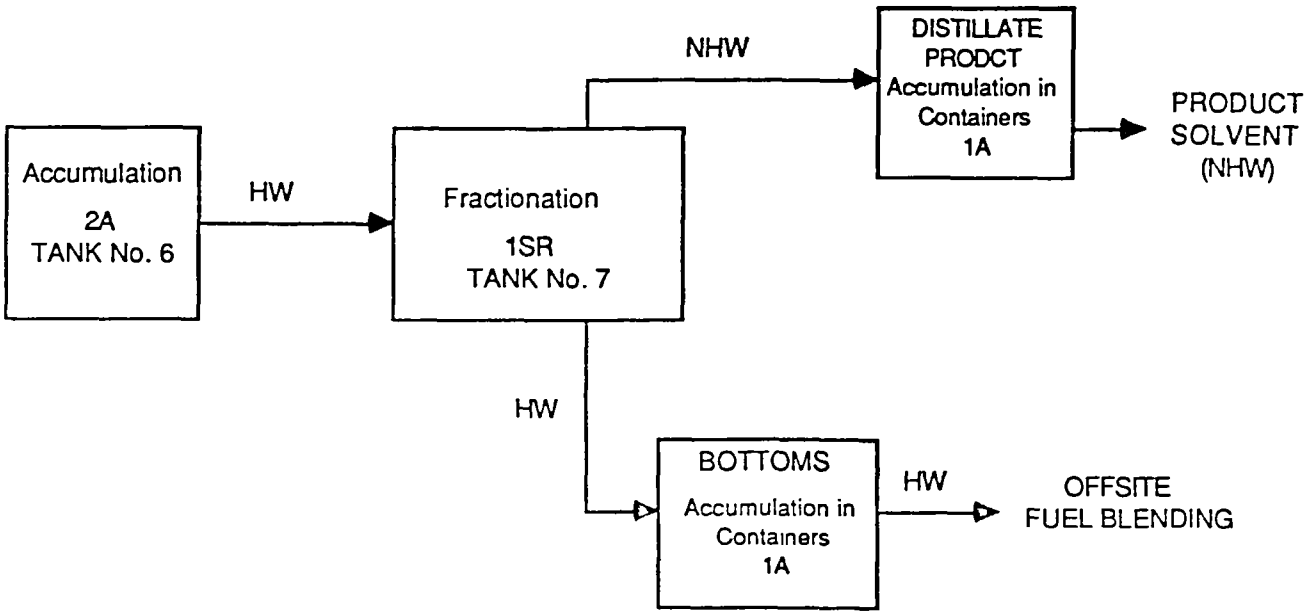

Figure 3. Example of a solvent recovery system.

156. Provide the following information for potential future survey-related contacts with this facility.

a. Is the EPA identification number of this facility the same as that given in the label on the cover of this questionnaire? *(Circle one)*

(01) Yes *(Skip to Question c)*
02 No *(Go to next question)*

b. Enter the correct EPA identification number of this facility in the space provided below.

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

(Go to Question c)

c. Are the COMPANY NAME and MAILING ADDRESS of this facility the same as those given in the label on the cover of this questionnaire? *(Circle one)*

01 Yes *(Skip to Question e)*
(02) No *(Go to next question)*

d. Enter the correct COMPANY NAME and MAILING ADDRESS of this facility in the space provided below.

Company name:

OLIN CORPORATION

Address:

PO BOX 278

City: MARION

State: IL

ZIP: 62959 –

e. What is the name, title, and telephone number of the person who completed this questionnaire?

Name:

JEAN SCHNEIDERMAN

Title:

REGULATORY COMPLIANCE SUPERVISOR

Telephone:

618 (Area Code) 985 – 8211

(Go to Question f)

f. Is YOUR MAILING ADDRESS the same as the address given in the label on the cover of this questionnaire? *(Circle one)*

"Mailing address" refers to the address at which you can be reached for future survey-related contacts.

01 Yes *(Skip to note on next page)*
(02) No *(Go to next question)*

g. At what MAILING ADDRESS can you be contacted for future survey-related information?

Mailing address:

P O B O X 2 7 8

City: MARION State: IL ZIP: 62959 –

(Go to note at bottom of page)

NOTE: *You have now completed this questionnaire. If you have also completed all the other questionnaires you must complete, MAKE A PHOTOCOPY OF THEM FOR YOUR RECORDS and send the originals to the following address using the enclosed postage-paid return envelope:*

U.S. Environmental Protection Agency
MD 99-RTI
Research Triangle Park, NC 27711

If you have not completed all the necessary questionnaires, go to the next questionnaire. If you have any questions about this or the other questionnaires used in this survey, call the Survey Helpline (1-800-635-8850).

FACILITY NOTES

Question Number(s)	Notes, comments, etc.

FACILITY NOTES

Question Number(s)	Notes, comments, etc.

QUESTIONNAIRE GA	GENERAL FACILITY INFORMATION

EPA Use Only ☐

1. ☐	29. ☐	57. ☐	85. ☐	113. ☐	141. ☐
2. ☐	30. ☐	58. ☐	86. ☐	114. ☐	142. ☐
3. ☐	31. ☐	59. ☐	87. ☐	115. ☐	143. ☐
4. ☐	32. ☐	60. ☐	88. ☐	116. ☐	144. ☐
5. ☐	33. ☐	61. ☐	89. ☐	117. ☐	145. ☐
6. ☐	34. ☐	62. ☐	90. ☐	118. ☐	146. ☐
7. ☐	35. ☐	63. ☐	91. ☐	119. ☐	147. ☐
8. ☐	36. ☐	64. ☐	92. ☐	120. ☐	148. ☐
9. ☐	37. ☐	65. ☐	93. ☐	121. ☐	149. ☐
10. ☐	38. ☐	66. ☐	94. ☐	122. ☐	150. ☐
11. ☐	39. ☐	67. ☐	95. ☐	123. ☐	151. ☐
12. ☐	40. ☐	68. ☐	96. ☐	124. ☐	152. ☐
13. ☐	41. ☐	69. ☐	97. ☐	125. ☐	153. ☐
14. ☐	42. ☐	70. ☐	98. ☐	126. ☐	154. ☐
15. ☐	43. ☐	71. ☐	99. ☐	127. ☐	155. ☐
16. ☐	44. ☐	72. ☐	100. ☐	128. ☐	156. ☐
17. ☐	45. ☐	73. ☐	101. ☐	129. ☐	
18. ☐	46. ☐	74. ☐	102. ☐	130. ☐	
19. ☐	47. ☐	75. ☐	103. ☐	131. ☐	
20. ☐	48. ☐	76. ☐	104. ☐	132. ☐	
21. ☐	49. ☐	77. ☐	105. ☐	133. ☐	
22. ☐	50. ☐	78. ☐	106. ☐	134. ☐	
23. ☐	51. ☐	79. ☐	107. ☐	135. ☐	
24. ☐	52. ☐	80. ☐	108. ☐	136. ☐	
25. ☐	53. ☐	81. ☐	109. ☐	137. ☐	
26. ☐	54. ☐	82. ☐	110. ☐	138. ☐	
27. ☐	55. ☐	83. ☐	111. ☐	139. ☐	
28. ☐	56. ☐	84. ☐	112. ☐	140. ☐	

RELEASES/SPILLS INCIDENT/NOTIFICATION FORMS

Completed by : J. Schneiderman

Reported by : Bina Plumlee To : Julie Cramer

Time : 815 am

Date : 4-2-83

Other notification : J. Schneiderman → P. Cannon
→ B. Barton
P. Cannon → R. Lowen

Incident time : 8:00 am discovered

Incident date : 4-2-83

Material involved : Karl Fisher Reagent

Operation (if any) involved : 3-2-1 Laboratory

Description of incident : See attached.

Reported to the following agency(s) :
none

Copies maintained by :
Regulatory Compliance Dept G. W. Barton
Safety Office P. Cannon
Regulatory Compliance Coordinator R. Rodd
Other :
J. Schneiderman
C. Clark
B. Plumlee
J. Cramer

Attach Appropriate Information

003499

Attach.

Karl Fisher Reagent Incident :

At about 8:00 a.m. Monday, April 2, 1983, Bina Plumlee, Q. A. Supervisor, entered the B-2-1 laboratory and turned on the lights. As she walked through the lab, she noticed a brown liquid at the bottom of the chemical cabinet and on the floor. She opened the door and more brown liquid fell onto the floor. An operator and she attempted to clean the material up with paper towels but were overcome by the odor and left. Bina called the Safety Office i.e., Julie Cramer.

At about 8:20 a.m., Julie Cramer called Jean Schneiderman for assistance. Jean inspected the area briefly with a nose/mouth chemical respirator and left as the vapors irritated the eyes. It was noted that a Karl Fisher reagent bottle was broke and had spilled and other chemicals were present on the bottom shelf. Signs were posted on the doors to keep out.

Paul Cannon and Jean reentered the area about 10:00 a.m. with self-contained breathing apparatus and rubber gloves. Paul and Jean removed the chemicals from the bottom shelf, wiped them clean from the reagent, and placed the chemcials in the hood. The floor and shelf were covered with speedidry and swept up. Water was used to clean the area. The reagent removed paint from the cabinet and discolored the floor.

Jean reentered the area at about 11:00 a.m. and placed all the scrap in a 55 gallon metal drum with clay absorbent. More absorbent was placed around the area to contain any reagent that seeped under the cabinet.

Mike Sweeney came over and took a video tape of the incident which is in the Safety Office. He removed all the chemicals from the shelfs onto trays in order that the cabinets could be moved to clean under them and the cabinets.

The next day, Jean placed vinegar on the floor and the cabinets were also cleaned with vinegar-water to remove the odor. The vinegar (or acetic acid) neutrilizes pyridine.

Action Taken Since the Incident

The unnecessary chemicals have since been removed from the lab. New proper cabinets were ordered and installed for appropriate solvents, acids, etc.

A new exhaust system was installed in the lab.

Fair Lawn, NJ 07410

MATERIAL SAFETY DATA SHEET (Adapted from USDL From LSD-005-4) (201) 796-7100

SECTION I. IDENTIFICATION OF PRODUCT

CHEMICAL NAME	FORMULA
Karl Fischer Reagent	

SYNONYM OR CROSS REFERENCE

SECTION II. HAZARDOUS INGREDIENTS

MATERIAL	NATURE OF HAZARD
pyridine	flammable
iodine	poison
sulfur dioxide	irritant

SECTION III. PHYSICAL DATA

BOILING POINT	115-125°C	MELTING POINT	approx -60°C
VAPOR PRESSURE(mm Hg)	unknown	SPECIFIC GRAVITY	1.16
VAPOR DENSITY (AIR = 1)	unknown	PERCENT VOLATILE BY VOLUME (%)	70%
WATER SOLUBILITY	complete	EVAPORATION RATE (ether = 1)	greater than

APPEARANCE Dark brown liquid

SECTION IV. FIRE AND EXPOSION HAZARD DATA

FLASH POINT (method used) (°F)	123°F closed cup	FLAMMABLE LIMITS	Uel	Lel
		unknown		

FIRE EXTINGUISHING MEDIA CO_2, alcohol foam, dry chemical

SPECIAL FIRE-FIGHTING PROCEDURES Use self contained breathing apparatus as toxic vapors are liberated on combustion.

UNUSUAL FIRE AND EXPLOSION HAZARD

SECTION V. HEALTH HAZARD

THRESHOLD LIMIT VALUE none listed

HEALTH HAZARDS Harmful if swallowed, inhaled or absorbed thru the skin.

FIRST AID PROCEDURES Ingestion: induce vomiting immediately. Inhalation: Remove fresh air, give artificial respiration if necessary. Eyes and skin: flush with water for at least 15 minutes. Consult a physician.

See Disclaimer on reverse side.

003501

STABLE	X	

INCOMPATIBILITY (material to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS: When heated emits toxic vapors of iodine and oxides of sulfur.

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII. SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Absorb with suitable media such as vermiculite. Place in suitable container.

WASTE DISPOSAL METHOD

DISPOSE OF BY MEANS AS TO COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS OR CONTACT AN APPROVED AND LICENSED DISPOSAL AGENCY.

SECTION VIII. PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)

Self contained breathing apparatus

VENTILATION		
	LOCAL	SPECIAL
	MECHANICAL (general) preferred	OTHER

PROTECTIVE GLOVES	EYE PROTECTION
rubber	safety glasses

OTHER PROTECTIVE EQUIPMENT

rubber apron

SECTION IX. HANDLING AND STORAGE PRECAUTION.

STORAGE AND HANDLING

Store tightly capped proteced from moisture.

SECTION X. MISCELLANEOUS INFORMATION

INFORMATION FURNISHED BY:	TITLE
Gaston L. Pillori	Manager of Quality Assurance

The above information is believed to be accurate and represents the best information currently available to us. However, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

REV NO 0 DATE March 25, 1980

Form No 11 79

PYRIDINE. Colorless liquid, sharp, penetrating, empyreumatic odor, burning taste. $NCHCHCHCHCH$, mw: 79.10, bp: 115.3°, lel = 1.8%, uel = 12.4%, fp: −42°, flash p: 68°F (CC), d: 0.982, autoign. temp.: 900°F, vap. press: 10 mm @ 13.2°, vap. d: 2.73.

Acute tox data: Oral LD_{50} (rat) = 891 mg/kg; inhal LC_{50} (rat) = 4000 ppm for 4 hrs; sc LD_{50} (rat) = 1000 mg/kg; dermal LD_{50} (rabbit) = 1121 mg/kg; iv LD_{50} (dog) = 880 mg/kg. [*3*]

THR = MOD via oral, dermal, sc, iv and inhal routes. Is mildly irr to skin and can cause CNS depression. Kidney, liver damage and GI upset also.

Fire Hazard. Dangerous; when exposed to heat, flame or oxidizers.

Spont Heating: No.

Explosion Hazard: Severe, in the form of vapor, when exposed to flame or spark. Reacts violently with chlorosulfonic acid, CrO_3, maleic anhydride, HNO_3, oleum, perchromates, β-propiolactone, $AgClO_4$, H_2SO_4. [*19*]

Disaster Hazard: Dangerous; when heated to decomp, emits highly toxic fumes of cyanides; can react vigorously with oxidizing materials.

To Fight Fire: Alcohol foam.

IODINE. Rhombic, violet-black crystals, metallic luster. I_2, mw: 253.8, mp: 113.5°, bp: 184°, d: 4.93, vap. press: 1 mm @ 38.7°.

THR = HIGH irr to skin, eyes and mu mem. The effect of iodine vapor upon the body is similar to that of chlorine and bromine, but it is more irr to the lungs. Serious exposures are seldom encountered in industry, due to the low volatility of the solid at ordinary room temp. Signs and symptoms are irr and burning of the eyes, lachrymation, coughing and irr of the nose and throat. See iodides.

Radiation Hazard: For permissible levels, see Section 5, Table 5A.5. Artificial isotope ^{125}I, $T_{\frac{1}{2}}$ = 60d, decays to stable ^{125}Te via ec and emits γ's of 0.04 MeV. Artificial isotope ^{129}I, $T_{\frac{1}{2}} = 1.7 \times 10^7$y, decays to stable ^{129}Xe via β's of 0.15 MeV; emits γ's of 0.04 MeV. Artificial isotope ^{131}I, $T_{\frac{1}{2}}$ = 8 05d, decays to stable ^{131}Xe via β's of 0.33 MeV (7%), 0.61 MeV (90%) emits γ's of 0.08–0.72 MeV. It reacts violently with acetaldehyde, C_2H_2, Al, NH_3, NH_4OH, Sb, BrF_3, $CsHC_2$, Cs_2C_2, Cs_2O, Cl_2, ClF_3, Cu_2C_2, (ethanol + methanol + HgO), F_2, Li, Li_2C_2, Li_6C, Mg, OF_2, P, K, $RbHC_2$, Rb_2C_2, AgN_3, NaH, ZrC. [*19*]

Disaster Hazard: Dangerous; when heated, emits highly toxic fumes of iodine and iodine compounds; can react vigorously with reducing materials.

SULFUR DIOXIDE. Syn: *sulfurous acid anhydride.* Colorless gas or liquid, pungent odor. SO_2, mw: 64.06, mp: −75.5°, bp: −10.0°, d(liquid): 1.434 @ 0°, vap. d: 2.264 @ 0°, vap. press: 2538 mm @ 21.1°.

Acute tox data: Inhal TC_{LO} (human) = 3 ppm for 5 days ⟶ pulmonary effects; inhal TC_{LO} (man) = 4 ppm for 1 min ⟶ pulmonary effects; inhal LC_{LO} (rat) = 611 ppm for 5 hrs; inhal LC_{LO} (mice) = 764 ppm for ½ hr; inhal LC_{LO} (guinea pig) = 5000 ppm for 5 min. [*3*]

THR = HIGH irr via inhal route and to skin, eyes and mu mem.

This gas is dangerous to the eyes, as it causes irr and inflammation of the conjunctiva. It has a suffocating odor and is a corrosive and poisonous material. In moist air or fogs, it combines with water to form sulfurous acid, but is only very slowly oxidized to sulfuric acid. Conc of 6–12 ppm cause immediate irr of the nose and throat, while 0.3–1 ppm can be detected by the average individual possibly by taste rather than by sense of smell. 3 ppm has an easily noticeable odor and 20 ppm is the least amount which is irr to the eyes. 10,000 ppm is an irr to moist areas of the skin within a few minutes of exposure.

It chiefly affects the upper respiratory tract and the bronchi. It may cause edema of the lungs or glottis, and can produce respiratory paralysis. Conc of <1 ppm are believed to be injurious to plant foliage.

This material is so irr that it provides its own warning of toxic conc. 400–500 ppm is immediately dangerous to life and 50–100 ppm is considered to be the maximum permissible conc for exposures of 30–60 min. Excessive exposures to high enough conc of this material can be fatal. Its toxicity is comparable to that of hydrogen chloride. However, less than fatal conc can be borne for fair periods of time with no apparent permanent damage. It is used as a fumigant, insecticide and fungicide, and a chemical preservative food additive. [*109*] It is a common air contaminant. It reacts violently with acrolein, Al, $CsHC_2$, CsO, chlorates, ClF_3, Cr, FeO, F_2, Mn, KHC_2, $KClO_3$, Rb_2C_2, Na, Na_2C_2, SnO, lithium acetylene carbide diammino. [*19*]

Disaster Hazard: Dangerous; will react with water or steam to produce toxic and corrosive fumes.

Treatment and Antidotes: Personnel who have shown toxicity symptoms when exposed to this material should immediately be removed to fresh air. If the eyes are involved they should be irrigated with copious quantities of warm water. If the symptoms persist, call a physician.

PYRETHRINS (PYRETHRUM EXTRACT, NOT LESS THAN 25% PYRETHRUM) 4963686
ORM-E NA9184
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000 454)

Pyrethrins are colorless to white liquids. It is used as a pesticide It s a wettable powder or water emulsifiable liquid. It can cause illness by tion, skin absorption and/or ingestion. In case of damage to, or eaking from containers of this material contact the pesticide safety team letwork. Telephone; 800-424-9300.

If material involved in fire
- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty)

If material not involved in fire
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection
- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

PYRIDINE 4909277
FLAMMABLE LIQUID UN1282

Pyridine is a clear colorless to light yellow liquid with a penetrating nauseating odor. It has a flash point of 68 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

RETHRINS (PYRETHRUM) 4963881
M-E NA9184
VIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000 454)

Pyrethrins are colorless to white liquids. It is used as a pesticide. It a wettable powder or water emulsifiable liquid. It can cause illness by alation, skin absorption and/or ingestion. In case of damage to, or king from containers of this material contact the pesticide safety team work. Telephone; 800-424-9300.

material involved in fire
- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

material not involved in fire
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

ersonnel protection
- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

nvironmental considerations—land spill
- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder

nvironmental considerations—water spill
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

PYROFORIC LIQUID, N.O.S. 4906070
FLAMMABLE LIQUID UN2845
PYROFORIC

Pyroforic liquids, n.o s., are materials whose principal property is that of igniting spontaneously in contact with moist air.

If material on fire or involved in fire
- Do not extinguish fire unless flow can be stopped
- Do not use water
- Use graphite, soda ash or powdered sodium chloride

If material not on fire and not involved in fire
- Do not use water
- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep material dry

Personnel protection
- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

EMERGENCY HANDLING OF HAZARDOUS MATERIALS IN SURFACE TRANSPORTATION

Edited by
Patrick J. Student

Bureau of Explosives
Association of American Railroads
1920 L Street, N.W.
Washington, D. C. 20036

003505

RELEASES/SPILLS INCIDENT/NOTIFICATION FORMS

Completed by : Jw. Schneiderman

Reported by : Tom Evans To : J. Schneiderman

Time : am

Date : 5-6-83

Other notification : J. Schneiderman → B Barton
→ P. Cannon
→ R. Rold

Incident time : not known

Incident date : 5-5-83

Material involved : ~ 8# Aluminum & 5# Graphite Mixture

Operation (if any) involved : Sidewalk & ground near D-1-15.

Description of incident : The operator reported the spill to T. Evans and T. Evans had the operator clean up the material from the sidewalk on 5-5-83. Upon reinspection by T. Evans, material was noticed on the ground nearby and the operator was instructed to remove the top soil & material which was completed 5-6-83. Upon reinspection again the area was satisfactory. The debris was sent to the Elin incinerator.

Reported to the following agency(s) :

None

Copies maintained by :
Regulatory Compliance Dept JW Barton
Safety Office P Cannon
Regulatory Compliance Coordinator R Rold
Other : J. Schneiderman
C Clark
T. Evans

Attach Appropriate Information

003506

INTER OFFICE MEMO

TO Mel Lynn AT DATE 21 October 1983

FROM Jean Schneiderman AT COPY TO G. W. Barton
D. Simpson
K. R. Gravatt
H. Baines
D. Koelker
M. Gravatt
P. Cannon

SUBJECT FAM 2-5 Ammonium Nitrate

It is requested that the following action be taken to correct the spillage problem and prevent further spillage of the 27 bags of Ammonium Nitrate in FAM 2-5, 20mm program material.

- Notify H. Baines that 27 polyethylene liners are needed for repackaging to be charged to the 20mm program.
- Contact D. Koelker and request 27 polyethylene (PE) liners.
- Have each Ammonium Nitrate bag transferred into a P.E. liner. Secure the bags with tape (tape enclosed).
- Make sure the "Ammonium Nitrate" markings and "Oxidizer" labels are visible through the liner. If they are not, place the markings and label on the liner.
- Contact M. Gravatt to have prepared a small 30mm fibrepack with all markings and labels removed with the exception of the DOT 21C marking. Request also a liner for the pack.
- Sweep the floor area in the warehouse and place the Ammonium Nitrate contaminated floor sweepings in the lined fibrepack. Secure the lid with tape. Place a waste label and oxidizer label on the pack (see attached). Complete the operating record form (see attached), and submit it to C. Clay for preparation of a waste manifest in order that it can be burned at the Olin incinerator. Request to borrow a small scale from M. Gravatt in order that the pack can be weighed. The weight will need to be entered on the label and record form. Not more than 5 pounds of Ammonium Nitrate can be placed in a fibrepack. If more than 5 pounds of waste results, contact me as more fibrepacks and labels will be needed.

Thank you for bringing this to my attention.

Jean Schneiderman

Jean Schneiderman

JS/ccf

003507

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD: ONE YEAR_____ OTHER _____

AMMONIUM NITRATE (ORGANIC COATING)

PROPER SHIPPING NAME (CFR 49, 172.101) NA1942

ACCUMULATION BEGAN

.005 CU. YDS.	1 GALLONS	POUNDS
QUANTITY (VOLUME)	QUANTITY (VOLUME)	QUANTITY (WEIGHT)

CONSIGNED TO:

OLIN INCINERATOR

HAZARDOUS WASTE—FEDERAL LAW PROHIBITS IMPROPER DISPOSAL. IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

GENERATOR: OLIN CORPORATION, P O DRAWER G, MARION, IL 62959 (618) 985-3721

MANIFEST DOCUMENT NO. IEPA 0575714

REMARKS FOR INTERNAL USE ONLY

AMMONIUM NITRATE

COMMON NAME FLOOR SWEEPINGS

GENERATING BLDG. FAM 2-5

COMPATIBILITY GROUPS L

Enter date packaged and pounds on label.

003508

Location: FAM 2-5 Date: 9-21-83 Manifest No: 0575714

Material For: [✓] Incinerator [ ] Retort [ ] Other

Proper Shipping Name Ammonium Nitrate (Organic Coating)
Hazard Class Oxidizer
Common Name Ammonium Nitrate floor sweepings

Type of Container DOT 21C
UN/NA Ident. No. NA ~~1000~~ 1942
EPA No. D001
Physical Form Solid

STORAGE FACILITY

NO	VOLUME AND WEIGHT				TREATMENT / STORAGE			STORAGE ONLY
	Cu. Yds.	Gallons	Gr. Lbs.	New	Hdlg. Code	TC	Date	Removed on IEPA Manif
1	.005	1			T18	I		
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
	.005	1			TOTALS			

Enter pounds on form

Gr. Lbs.: Weight in pounds minus bulk container weight
New: Net explosive weight if different from Gr. Wt.
TC: Treatment Code

003509

Report of Industrial Wastewater Discharges

NOTICE

Please read carefully the instructions and notes below before attempting to complete this report.

a. If your facility has filed or will be filing an application with the U.S. Army Corps of Engineers for a permit to discharge into navigable waters, completion of this form should be governed by the following

1. Where there is no discharge other than to navigable waters and there are no personnel or facilities for treatment of wastewater prior to discharge complete Items 1 through 5, 8 and 9 of Section I and return the report with a statement to that effect.
2. Where there is no discharge other than to navigable waters but wastewater treatment is provided before discharge complete Items 1 through 5, 8 and 9 of Section I and a full Section III.
3. Where there are discharges other than to navigable waters, e.g. to municipal facilities, surface containments, etc. complete Items 1 through 5, 8 and 9 of Section I, a Section II for each discharge other than those to navigable waters and a full Section III where treatment of wastewater before discharge is involved

(b.) If your facility is not required to obtain a Corps of Engineers discharge permit, complete Section I, disregarding Items 6, 7, 10 and 11. Complete a Section II for each discharge and a Section III where treatment of wastewater before discharge is involved.

c. All information contained in this report will, upon request, be made available to the public for inspection and copying Confidential treatment may be extended to specific information which the reporting company considers to constitute trade secrets or commercial or financial information of a confidential nature. Such information must be reported on a separate sheet entitled "Confidential Answers" and must clearly indicate the item to which it applies. Confidentiality will be extended if the reporting company can clearly demonstrate to the satisfaction of the Administrator of the Environmental Protection Agency or his authorized representative that the disclosure of such information to the general public would divulge methods or processes entitled to protection as trade secrets or would reveal commercial or financial information of a confidential nature. In no event will identification of the contents and frequency of a discharge be recognized as confidential or privileged information.

d Submission of information requested on this form is voluntary.

e. Indicate type of report by circling either a 1, a 2., a.3., or b above

SECTION I. GENERAL INFORMATION

1. State (standard abbreviation): I L

U.S. Army Corps of Engineers Application No.: ___ Div. ___ Dist. ___ Type ___ Seq. No. ___

Code No (to be assigned by EPA): ___

2 Name of reporting company, agency or other organization

OLIN CORPORATION

3 Mailing address of reporting company, agency or other organization

120 Longridge Rd.
Stamford, Conn. 06904

4. Name, telephone number, title and mailing address of authorized agent for coordination and correspondence regarding this report

Name: R. D. Altekruse
Telephone Number: (618) 997-3302
Title: Technical Engineer
Mailing Address: Olin Corporation
P.O. Drawer "G"
Marion, Illinois 62959

Signature and title of principal officer responsible for completing and forwarding this report

Signature: [signature]
J. E. Redden

Title: Vice-President Technical Systems Operation

EPA Form 7500-1 (7-71)

003510

mo day yr

6. Check type of application: a. Original ☐ b. Revision ☐

7. Number of original application:

8. Name of plant where discharge will occur

Technical Systems Operation

9. Full mailing address of plant named in item 8 above

Olin Corporation
P.O. Drawer G
Marion, Ill. 62959

10. Names and mailing addresses of all adjoining property owners whose property is [illegible] the waterway

11. Question indicates [illegible] a. Discharge ☐ b. Construction ☐ c. Construction with Discharge ☐ d. Discharge only ☐

12. If activity is temporary in nature, estimate its duration in months

13. List intake sources

Source	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal or private water supply system	0.25
Surface water body	
Ground water	
Other	

14. Describe water usage within the plant

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Cooling water	0.16
Boiler feed water	0.01
Process water	
Sanitary system*	0.08
Other	

15. List volume of discharges or losses other than into navigable waters

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal waste treatment system	0.23
Surface containment	
Underground disposal	
Waste acceptance firms	
Evaporation	0.01
Consumption	0.01

* Indicate number employees served per day 800

EPA Form 7500-1 (7-71)

003511

a Present [X]	b Proposed or changed [ ]	2 Implementation schedule [ ]	

Name of corporate boundaries within which the point of discharge is located

State	County	City or Town	6. Discharge Serial No
3. Illinois	4. Williamson	5	001

State the precise location of the point of discharge

7 Latitude ___ ___ Degrees; ___ ___ Min; ___ ___ Sec.

8 Longitude ___ ___ ___ Degrees, ___ ___ Min; ___ ___ Sec.

9 Name of waterway or other point of discharge

Crab Orchard Wilf Life Refuge
Sewage Treatment Plant.

10. Has application for water quality certification or description of impact been made? If so, give date.

Date	Check if certificate is attached to form	Name Issuing Agency
___ ___ mo ___ ___ day ___ ___ yr	[ ]	

11. Narrative description of activity (include terms of general 4-digit Standard Industrial Classification, and specific manufacturing process)

Assembly and Loading of Military Ordnance items. Water usage is primarily for cooling purposes which do not contribute to water contamination. Small amounts of water are used for boiler feed water for heating purposes. Plant sanitation also uses water.

12. Standard Industrial Classification Code number	13. Principal products	14. Amount of principal products produced per day
19	Military Flares	4000 Each
	Projectiles	10000 Each

15. Principal raw materials	16. Amount of principal raw materials consumed per day	17. Number of batch discharges per day
		None

18. Average gallons per batch discharge	19. Date discharge began	20. Date discharge will begin
N/A	___ ___ mo ___ ___ day 60 yr	___ ___ mo ___ ___ day ___ ___ yr

21. Describe waste abatement practices

Waste from cold extrusion of projectiles is segregated from balance of waste. Cooling water is recycled.

RECYCL - ESEGRE

003512

Parameter and Code	Intake: Untreated Intake Water (1)	Intake: Treated Intake Water	Discharge: Average (Daily) (2)	Discharge: Minimum (Operating Year) (3)	Discharge: Maximum (Operating Year) (4)	Discharge: Sample Frequency (5)	Discharge: Continuous Monitoring (6)	(7)
Flow (Gallons per day) 00056			250,000	230,000	150,000	300,000	MNLY	ABS
pH 00400			8.3	7.9	7.8	8.6	DYLY	REC
Temperature (Winter) (°F) 74028			40	42	34		OTHR	ABS
Temperature (Summer) (°F) 74027			77	79		87	OTHR	ABS

23. DISCHARGE CONTENTS

PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT
Color 00080	X		Aluminum 01105	X		Nickel 01067		X
Turbidity 00070	X		Antimony 01097		X	Selenium 01147		X
Radioactivity 74050		X	Arsenic 01002		X	Silver 01077		X
Hardness 00900	X		Beryllium 01012		X	Potassium 00937	X	
Solids 00500	X		Barium 01007		X	Sodium 00929	X	
Ammonia 00610	X		Boron 01022		X	Titanium 01152		X
Organic Nitrogen 00605		X	Cadmium 01027		X	Tin 01102		X
Nitrate 00620	X		Calcium 00916	X		Zinc 01092		X
Nitrite 00615		X	Cobalt 01037		X	Algicides 74051		X
Phosphorus 00665	X		Chromium 01034		X	Oil and Grease 00550		X
Sulfate 00945	X		Copper 01042		X	Phenols 32730		X
Sulfide 00745		X	Iron 01045	X		Surfactants 38260		X
Sulfite 00740		X	Lead 01051		X	Chlorinated Hydrocarbons 74052		X
Bromide 71870		X	Magnesium 00927	X		Pesticides 74053		X
Chloride 00940	X		Manganese 01055	X		Fecal Streptococci Bacteria 74054	X	
Cyanide 00720		X	Mercury 71900		X	Coliform Bacteria 74056	X	
Fluoride 00951		X	Molybdenum 01062		X			

003513

☐ Yes ☒ No

24b. If yes, have steps been taken to insure that there exists no possibility of any such known hazardous or potentially hazardous substance entering this discharge?

☐ Yes ☒ No

25. Remarks

Item 22, Col. 6 - Estimated Temperatures
Item 23 - Parameters shown as "Present" are only those expected to be present in intake water from the Crab Orchard National Wild Life Refuse Treatment Plant or to result from use of sanitary facilities.

The information above completes the basic reporting which is requested of all plants. Those plants whose discharge results from an activity included within any of the Standard Industrial Classification Code (SIC Code) categories listed below are also requested to complete Parts A and B of this Section.

CRITICAL INDUSTRIAL GROUPS

SIC	098	FISH HATCHERIES, FARMS, AND PRESERVES
SIC	10-14	DIVISION B – MINING
SIC	201	MEAT PRODUCTS
SIC	202	DAIRY PRODUCTS
SIC	203	CANNED PRESERVED FRUITS, VEGETABLES (EXCEPT SEAFOODS, SIC 2031 AND 2036)
SIC	2031, 2036	CANNED AND CURED FISH AND SEAFOODS; FRESH OR FROZEN PACKAGED FISH AND SEAFOODS
SIC	204	GRAIN MILL PRODUCTS
SIC	206	SUGAR
SIC	207	CONFECTIONARY AND RELATED PRODUCTS
SIC	208	BEVERAGES
SIC	209	MISCELLANEOUS FOOD PREPARATIONS AND KINDRED PRODUCTS
SIC	22	TEXTILE MILL PRODUCTS
SIC	23	APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS
SIC	242	SAWMILLS AND PLANING MILLS
SIC	2432	VENEER AND PLYWOOD
SIC	2491	WOOD PRESERVING
SIC	26	PAPER AND ALLIED PRODUCTS
SIC	281	INDUSTRIAL INORGANIC AND ORGANIC CHEMICALS (EXCEPT SIC 2818)
SIC	2818	INDUSTRIAL ORGANIC CHEMICALS
SIC	282	PLASTIC MATERIALS AND SYNTHETIC RESINS, SYNTHETIC RUBBER, SYNTHETIC AND OTHER MAN-MADE FIBERS, EXCEPT GLASS
SIC	283	DRUGS
SIC	284	SOAP, DETERGENTS, AND CLEANING PREPARATIONS, PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS
SIC	285	PAINTS, VARNISHES, LACQUERS, ENAMELS, AND ALLIED PRODUCTS
SIC	2871	FERTILIZERS
SIC	2879	AGRICULTURAL PESTICIDES, AND OTHER AGRICULTURAL CHEMICALS, NOT ELSEWHERE CLASSIFIED
SIC	2891	ADHESIVES AND GELATIN
SIC	2892	EXPLOSIVES
SIC	29	PETROLEUM REFINING AND RELATED INDUSTRIES
SIC	3011, 3069	TIRES AND INNER TUBES, FABRICATED RUBBER PRODUCTS, NOT ELSEWHERE CLASSIFIED
SIC	3079	MISCELLANEOUS PLASTIC PRODUCTS
SIC	311	LEATHER TANNING AND FINISHING
SIC	32	STONE, CLAY, GLASS, AND CONCRETE PRODUCTS
SIC	331	BLAST FURNACES, STEEL WORKS, AND ROLLING AND FINISHING MILLS
SIC	332	IRON AND STEEL FOUNDRIES
SIC	333, 334	PRIMARY SMELTING AND REFINING OF NONFERROUS METALS; SECONDARY SMELTING AND REFINING OF NONFERROUS METALS
SIC	336	NONFERROUS FOUNDRIES
SIC	347	COATING, ENGRAVING, AND ALLIED SERVICES
SIC	35	MACHINERY, EXCEPT ELECTRICAL
SIC	36	ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES
SIC	37	TRANSPORTATION EQUIPMENT (EXCEPT SHIP BUILDING AND REPAIRING, SIC 3731)
SIC	3731	SHIP BUILDING AND REPAIRING
SIC	491	ELECTRIC COMPANIES AND SYSTEMS
SIC	493	COMBINATION COMPANIES AND SYSTEMS

003514

1. Discharge described below is
a. Present ☐ b. Proposed new or changed [X]

2. Implementation schedule ☐

(Optional)

Name of corporate boundaries within which the point of discharge is located

State	County	City or Town
3. Illinois	4. Williamson	5.

6. Discha
00

State the precise location of the point of discharge

7. Latitude ___ ___ Degrees; ___ ___ Min; ___ ___ Sec.

8. Longitude ___ ___ ___ Degrees; ___ ___ Min; ___ ___ Sec.

9. Name of waterway or other point of discharge
Crab Orchard Wild Life Refuge S
Treatment Plant.

10. Has application for water quality certification or description of impact been made? If so, give date:

Date ___ mo ___ day ___ yr

Check if certificate is attached to form ☐

Name Issuing Agency

11. Narrative description of activity (include terms of general 4-digit Standard Industrial Classification, and specific manufacturing

Cold extrusion of Ordnance Projectiles.

12. Standard Industrial Classification Code number	13. Principal products	14. Amount of princi per day
19	Projectiles	10,0

15. Principal raw materials	16. Amount of principal raw materials consumed per day	17. Number of batch
		None

18. Average gallons per batch discharge	19. Date discharge began	20. Date discharge will be
N/A	___ mo ___ day ___ yr	N O V mo

21. Describe waste abatement practices

Waste is segregated from balance of plant waste, pH is adjuste
Phospheric Acid is neutralized, Zinc Hydroxide is precipitated.
Solids are sedimented in a holding lagoon, sediment is disposed
of in landfill, and treated water is discharged into sewers le
to the Crab Orchard National Wild Life Refuge Sewage Treatment.

ESEGRE - CNEUTR - CCOAGU - CCHEMI - PSEDIM - SLANDD - WOTHER

EPA Form 7500-1 (7-71)

003515

Discharge Serial No	(Office use only)
002	

Parameter and Code	Intake: Untreated Intake Water (1)	Intake: Treated Intake Water	Discharge: Average (Daily) (2)	Discharge: Minimum (Operating Year) (3)	Discharge: Maximum (Operating Year) (4)	Discharge: Sample Frequency (5)	Discharge: Continuous Monitoring (6)	(7)
Flow (Gallons per day) 00056			48,000	48,000	24,000	72,000	MNLY	ABS
pH 00400			8.3	7.5	6.5	8.5	DYLY	REC
Temperature (Winter) (°F) 74028			40	40	33		OTHR	ABS
Temperature (Summer) (°F) 74027			77	77		85	OTHR	ABS

23. DISCHARGE CONTENTS

PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT
Color 00080		X	Aluminum 01105	X		Nickel 01067		X
Turbidity 00070		X	Antimony 01097		X	Selenium 01147		X
Radioactivity 74050		X	Arsenic 01002		X	Silver 01077		X
Hardness 00900	X		Beryllium 01012		X	Potassium 00937	X	
Solids 00500		X	Barium 01007		X	Sodium 00929	X	
Ammonia 00610		X	Boron 01022		X	Titanium 01152		X
Organic Nitrogen 00605		X	Cadmium 01027		X	Tin 01102		X
Nitrate 00620	X		Calcium 00916	X		Zinc 01092	X	
Nitrite 00615		X	Cobalt 01037		X	Algicides 74051		X
Phosphorus 00665	X		Chromium 01034		X	Oil and Grease 00550		X
Sulfate 00945	X		Copper 01042		X	Phenols 32730		X
Sulfide 00745		X	Iron 01045	X		Surfactants 38260		X
Sulfite 00740		X	Lead 01051		X	Chlorinated Hydrocarbons 74052		X
Bromide 71870		X	Magnesium 00927	X		Pesticides 74053		X
Chloride 00940	X		Manganese 01055	X		Fecal Streptococci Bacteria 74054		X
Cyanide 00720		X	Mercury 71900		X	Coliform Bacteria 74056		X
Fluoride 00951		X	Molybdenum 01062		X			

003516

☐ Yes ☒ No

24b. If yes, have steps been taken to insure that there exists no possibility of any such known hazardous or potentially hazardous substance entering this discharge?

☐ Yes ☒ No

25. Remarks

Item 22, Col 6 - Estimated Temperatures
The treatment system prior to discharge is designed to reduce all contaminants to concentrations below applicable allowable limits.

The information above completes the basic reporting which is requested of all plants. Those plants whose discharge results from an activity included within any of the Standard Industrial Classification Code (SIC Code) categories listed below are also requested to complete Parts A and B of this Section.

CRITICAL INDUSTRIAL GROUPS

SIC	098	FISH HATCHERIES, FARMS, AND PRESERVES
SIC	10-14	DIVISION B – MINING
SIC	201	MEAT PRODUCTS
SIC	202	DAIRY PRODUCTS
SIC	203	CANNED PRESERVED FRUITS, VEGETABLES (EXCEPT SEAFOODS, SIC 2031 AND 2036)
SIC	2031, 2036	CANNED AND CURED FISH AND SEAFOODS, FRESH OR FROZEN PACKAGED FISH AND SEAFOODS
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SIC	206	SUGAR
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SIC	208	BEVERAGES
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SIC	26	PAPER AND ALLIED PRODUCTS
SIC	281	INDUSTRIAL INORGANIC AND ORGANIC CHEMICALS (EXCEPT SIC 2818)
SIC	2818	INDUSTRIAL ORGANIC CHEMICALS
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SIC	283	DRUGS
SIC	284	SOAP, DETERGENTS, AND CLEANING PREPARATIONS, PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS
SIC	285	PAINTS, VARNISHES, LACQUERS, ENAMELS, AND ALLIED PRODUCTS
SIC	2871	FERTILIZERS
SIC	2879	AGRICULTURAL PESTICIDES, AND OTHER AGRICULTURAL CHEMICALS, NOT ELSEWHERE CLASSIFIED
SIC	2891	ADHESIVES AND GELATIN
SIC	2892	EXPLOSIVES
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SIC	3011, 3069	TIRES AND INNER TUBES, FABRICATED RUBBER PRODUCTS, NOT ELSEWHERE CLASSIFIED
SIC	3079	MISCELLANEOUS PLASTIC PRODUCTS
SIC	311	LEATHER TANNING AND FINISHING
SIC	32	STONE, CLAY, GLASS, AND CONCRETE PRODUCTS
SIC	331	BLAST FURNACES, STEEL WORKS, AND ROLLING AND FINISHING MILLS
SIC	332	IRON AND STEEL FOUNDRIES
SIC	333, 334	PRIMARY SMELTING AND REFINING OF NONFERROUS METALS; SECONDARY SMELTING AND REFINING OF NONFERROUS METALS
SIC	336	NONFERROUS FOUNDRIES
SIC	347	COATING, ENGRAVING, AND ALLIED SERVICES
SIC	35	MACHINERY, EXCEPT ELECTRICAL
SIC	36	ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES
SIC	37	TRANSPORTATION EQUIPMENT (EXCEPT SHIP BUILDING AND REPAIRING, SIC 3731)
SIC	3731	SHIP BUILDING AND REPAIRING
SIC	491	ELECTRIC COMPANIES AND SYSTEMS
SIC	493	COMBINATION COMPANIES AND SYSTEMS

003517

INTER-OFFICE MEMO

TO J. Schneiderman AT DATE 02-18-86

FROM J. Hartman AT COPY TO P. Cannon
D. Bender
P. Cannon

SUBJECT Building D-1-12

Upon reviewing the building D-1-12, in the D area for a Safety Hazard complaint, I found unknown contaminants covering the entire floor area.

I was unable to check the barrel contents for identification because of the amount of leakage on the floor.

Please review this condition and notify the Safety Department of your findings.

Thank you,

Juanita Hartman
Safety Inspector

RECEIVED
FEB 19 1986
J. SCHNEIDERMAN

003518

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD ONE YEAR _____ OTHER _____

OC-10000 REV. 1/81

INTERNAL CORRESPONDENCE MEMO

TO J. Hartman AT DATE 19 February 1986

FROM J. Schneiderman AT COPY TO P. Cannon
D. Bender
J. Dyston

SUBJECT Building D-1-12 Status
Response to correspondence dated 18 Febr. 86

Per your request, the condition and findings of D-1-12 are as follows.

The condition of Building D-1-12 was reported to the Safety Department on 21 January 1986. Paul Cannon then reported it to Regulatory Compliance. Regulatory Compliance notified other parties. (Please refer to the attached report and memo.)

The material is Dalco Solv suspected to contain HEI/HE mix from a filtering operation and/or a smaller container of oil.

The material disposition i.e. waste/material is being assessed by Production. I did discuss possible waste disposal options with Norm Wilkaitis, however, Production has not requested any further assistance from Regulatory Compliance.

A dike of clay was put in place to prevent the material from leaving the building. It is my opinion that this situation should be corrected as soon as possible and no entry into the building should be allowed until it is corrected.

Until Production determines the materials disposition, it is suggested that the building (floor) be cleaned up and that the material in the drum(s) that are leaking, be transferred into new drums and the drums remarked. It is suspected that the drum(s) contained water. When the weather got cold, the fluids expanded. The drums should be replaced if the leak occurred at a point other than the bung. Otherwise, some of the material from each drum could be transferred into another drum to allow for further possible material expansion.

If there is further discussion, please advise.

Jean Schneiderman

Jean Schneiderman

JMS/kc

003519

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REV. 1 81

RELEASES/SPILLS INCIDENT/NOTIFICATION FORMS

Completed by : Candice Lindsey

Reported by : maintenance man to P. Cannon To : Candice Lindsey

Time : 11:40 am

Date : 1-21-86

Other notification : C. Lindsey → J. Schneiderman → J. Oyston
→ D. Bender
→ A. Heinz

Incident time : discovered 1-21-86 am

Incident date : 1-21-86

Material involved : Dalco Solv and/or used oil stored in D-1-12

Operation (if any) involved : none D-1-12

Description of incident : 55 gal. drum of used/filtered Dalco Solv and(?)/or small drum of used oil leaked, covering building floor, sidewalk outside building, & also on to ground. Clay absorbent was put down on the sidewalk and cleaned up immediately into lined fiberpaks; a dike of absorbent was put down inside building door to contain the area; the contaminated ground was dug up & put into lined fiberpaks immediately. The appropriate action for clean up of the building and material disposition is being assessed by Production and corrective action will follow

Reported to the following agency(s) :

not required

Copies :
Regulatory Compliance Dept J. Schneider
Safety Office P. Cannon
Regulatory Compliance Coordinator
Other : D. Bender
J. Oyston
A. Heinz
B. High

Attach Appropriate Information

MSDS attached

003520

FOR COATINGS RESINS AND RELATED MATERIALS

(Approved by U.S. Department of Labor, Essentially Similar to Form OSHA 20)

126

Section I

3/18

MANUFACTURER'S NAME: Dalco Industries, Ltd.

DATE OF PREP: November 1983

STREET ADDRESS: Spring Valley Industrial Park

CITY STATE AND ZIP CODE: Spring Valley, N. Y. 10977

EMERGENCY TELEPHONE NO:

INFORMATION TELEPHONE NO: (914) 352-1200

PRODUCT CLASS: Solvent, Degreaser

MANUFACTURERS CODE IDENTIFICATION: DS-50

TRADE NAME: DALCO SOLV DS-50

FOR INFORMATION ONLY

Section II—HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	OCCUPATIONAL EXPOSURE LIMITS	VAPOR PRESSURE	TOXICITY DATA
Aliphatic Hydrocarbon	60%	500		
Chlorinated Hydrocarbon	10-30	100		
Chlorinated Hydrocarbon	1-10	500		
1. Mineral Spirits 2. Perchloroethylene 3. Methylene Chloride			340 mm Hg, 68°F.	

Section III—PHYSICAL DATA

BOILING RANGE: Component 1-10% 104°F.

VAPOR DENSITY: X HEAVIER ☐ LIGHTER THAN AIR

EVAPORATION RATE: ☐ FASTER X SLOWER THAN ETHER

PERCENT VOLATILE BY VOLUME: 100

WEIGHT PER GALLON: Heavier than water

Section IV—FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION: OSHA _____ DOT Combustible

FLASH POINT: 200°F. T.C.C.

EXTINGUISHING MEDIA

☐ FOAM ☐ ALCOHOL FOAM ☐ CO_2 X DRY CHEMICAL ☐ WATER FOG X OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS

Product being heavier than air may travel along the ground. Do not use near welding equipment. Do not use near open flame.

003521

Section V—HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE

Irritation, Dermatitis, Blurred vision, Respiratory irritation.

EMERGENCY AND FIRST AID PROCEDURES Eyes: Flush with water.
Skin: Wash with soap and water - remove to fresh air.
Swallowing: Do not induce vomiting. Get medical aid.

Section VI—REACTIVITY DATA

STABILITY ☐ UNSTABLE ☒ STABLE CONDITIONS TO AVOID

INCOMPATIBILITY (Materials to Avoid) Strong acids and alkalines

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR

Section VII—SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Small....Allow to evaporate.
Large.....Collect, and dike area around spill.

WASTE DISPOSAL METHOD

As per local and federal regulations.

Section VIII—SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION Self contained breathing apparatus

VENTILATION Local Exhaust
Mechanical

PROTECTIVE GLOVES If necessary OTHER PROTECTIVE EQUIPMENT Impervious clothing

EYE PROTECTION Yes.....approved goggles

Section IX—SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Empty containers may be hazardous due to vapors remaining.

OTHER PRECAUTIONS

Contains chlorinated solvents.

WINCHESTER

FROM THE DESK OF

JEAN SCHNEIDERMAN Date: 1/22/86

To: Jim Boyston

Regarding: D-1-12 spill waste instructions

any material soaked in ab absorbent from floor cleanup and the dirt cleaned up should be placed in small lined fibrepacks and s... to the incinerator as "HEI Contaminated Mater... since it is unknown whe... the solvent (Dalco Solv... was properly filtered o... all. Further instruction... disposition of the drum... of material will be for... coming from your supervi...

Jean S.

003523

INTER OFFICE MEMO

TO Distribution AT DATE 7 April 1986

FROM A. Heinz AT COPY TO

SUBJECT MOCA

All MOCA (4,4'-methylenebis 2 chloroaniline) has been removed from the facility as of 1 April 1986, and the D Area MOCA building decontaminated. The Materials, Production, and R&D Departments have confirmed that all MOCA materials were released and scrapped for waste disposal. The MOCA building has been decontaminated and cleared for other activities in accordance with smear results taken by the Safety Office.

Therefore, medical clearance for MOCA will no longer be required at the facility. All MOCA required signs at the MOCA building must be removed immediately. Any future use of MOCA at the facility is prohibited unless my approval is given.

A. Heinz

JMS:AH/kc

Distribution

D. Bender
K. Gravatt
J. Hagan
R. Hudson
R. Lukuc
D. Marlow
C. Moore
J. Schneiderman

P. Cannon
T. Isaacs

RECEIVED
APR 08 1986
J. SCHNEIDERMAN

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD: ONE YEAR _____ OTHER _____
OC-10000 REV. 1/81

UNITED OFFICIAL MEMO

TO A. Heinz AT DATE 3 April 1986

FROM J. Schneiderman AT COPY TO

SUBJECT MOCA Decontamination/Removal Project Status: Complete

Per your directive, all MOCA (4,4'-methylenebis 2 chloroaniline) has been removed from the facility as of 1 April 1986. The D Area MOCA building was decontaminated and support to this fact is evident by the results of smear samples taken by the Safety Office. To the best of my knowledge, all MOCA and MOCA contaminated materials have been removed and were in transport 1 April 1986, for disposal at CECOS International, Williamsburg, Ohio, secure hazardous waste landfill facility. The Materials, Production, and R&D Departments were contacted and released any MOCA available for scrap and waste disposal.

It is my opinion, therefore that Medical Clearance for MOCA should no longer be required at this time. This is of course, contingent on any future activities with MOCA at the facility. The MOCA building should be considered MOCA cleared and available for other activities. Any remaining MOCA signs should be removed from this facility.

If there is any discussion, please advise.

Jean Schneiderman
Jean Schneiderman

JMS/kc

003525

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD ONE YEAR OR

INTERNAL CORRESPONDENCE

TO J. Schneiderman AT DATE 03-17-86

FROM J.M. Hartman AT COPY TO P.C. Cannon
C. Cox
J. Oyston

SUBJECT Moca Samples from Ductwork

The four(4) samples taken on 03-06-86, from the motor and the ductwork were found to be negative per memo received on 03-17-86.

In view of these findings the Safety Department has released the ductwork to be scraped out.

Thank you,

Juanita Hartman
Safety Inspector

RECEIVED

MAR 18 1986

J. SCHNEIDERMAN

003526

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD ONE YEAR _____ OTHER _____

OC-10000 REV. 1/81

ORDNANCE PRODUCTS

UNCONTROLLED
RESTRICTED USAGE.
USER IS CAUTIONED TO CHECK WITH DOCUMENT CONTROL FOR LATEST APPLICABLE REVISION.
ISSUE DATE FEB 10 1986 COR:
CHECK NFO
BID P. O.

TEMPORARY **STANDARD OPERATING PROCEDURE**

DESCRIPTION: MOCA DECONTAMINATION OF MOCA BUILDING AND THE DISMANTLING/SCRAPPING OF CONTAMINATED EQUIPMENT

PRODUCT _____ T. S O.P. NO. 85-298 REVISION N/C

DEPARTMENT NO. _____ OPERATION NO. _____ PREPARED BY C. Lindsey DATE 11/19/

1.0 PURPOSE

The purpose of this procedure is to provide operating procedures for maintenance and production personnel for proper decontamination of the MOCA building and also dismantling/scrapping of contaminated equipment.

2.0 SCOPE

This procedure is limited to the decontamination of the MOCA building and removal of contaminated equipment and scrap from the MOCA building, and waste packaging instructions.

3.0 SAFETY AND HOUSEKEEPING REQUIREMENTS

Personnel involved with performing these operations are required to wear the following prescribed equipment and observe the rules as stated.

3.1 Personnel

3.1.1 Disposable and impermeable long sleeve coveralls
3.1.2 Safety shoes
3.1.3 Disposable shoe covers
3.1.4 Safety glasses
3.1.5 Half face filter type respirator
3.1.6 Neoprene or butyl rubber gloves
3.1.7 Personnel must be respirator approved and trained. Contact Medical and Safety Departments.
3.1.8 Personnel must be MOCA cleared. Contact Medical Department.
3.1.9 Avoid skin contact with MOCA dust or the solid form.
3.1.10 Avoid inhalation of MOCA dust.
3.1.11 Prior to each exit from a contaminated area, personnel will remove respirator wipe it off with soap and water if dusty. Personnel will also remove protective clothing in the "dirty room" prior to each exit from a contaminated area and deposit it in the proper container for disposal.
3.1.12 On each exit from contaminated area, personnel will wash hands, forearms, face and neck.
3.1.13 Before reentering contaminated area, personnel will put on clean protective clothing.
3.1.14 At the end of each working day, personnel will shower with soap and water.
3.1.15 Get first aid immediately for any injury.
3.1.16 Report any accident or near accident immediately to your supervisor.
3.1.17 No storage or consumption of food, beverages, smoking materials, tobacco or chewing gum is permitted in the MOCA building.
3.1.18 As a precaution, personnel shall submit a urine sample when the decontaminating process is completed.

ORDNANCE PRODUCTS

TEMPORARY **STANDARD OPERATING PROCEDURE**

DESCRIPTION: MOCA DECONTAMINATION OF MOCA BUILDING AND THE DISMANTLING/SCRAPPING OF CONTAMINATED EQUIPMENT

PRODUCT _____ T.S.O.P. NO. 85-298 REVISION N/C

DEPARTMENT NO. _____ OPERATION NO. _____ PREPARED BY C. Lindsey DATE 11/19/

3.1.19 The Safety Department will take smear samples of the inside of the building after it has been decontaminated. Those samples will be sent to New Haven toxicology lab for analysis.

3.1.20 Personnel will use a minimal amount of water when washing down walls, etc. Contaminated water must be put in a properly labelled 55 gallon drum and mixed with clay absorbent.

3.2 Housekeeping

3.2.1 Personnel are required to maintain work areas orderly and clean.

3.2.2 All disposable coveralls, shoe covers, rubber gloves, rags, etc. shall be collected in the designated MOCA waste containers.

3.2.3 Detailed housekeeping information is in the "Operating Procedure" section of this TSOP.

4.0 MATERIALS/EQUIPMENT

4.1 Rags, paper towels
4.2 Pails and squegee sponge mops, bristle brushes
4.3 Soap (such as Top Job, Mr. Clean, etc.)
4.4 Water (minimal amount)
4.5 Four (4) 55 gallon drums (new and open top with bungs)
4.6 Hazardous waste labels
4.7 Clay absorbent
4.8 Paint, white
4.9 Paint brushes
4.10 6 mil polyethylene bags
4.11 tape

5.0 RESPONSIBILITIES

5.1 It is the responsibility of the Maintenance Department to disposition for scrap and also to dismantle exhaust fans, exhaust hood, exhaust venting, temperature control unit and any other equipment that must be dismantled before it can be scrapped. Maintenance Department will also make disposition on the old carrier unit and duct work that is outside the MOCA building that is not contaminated. It will also be the responsibility of the Maintenance Department to paint the inside of the MOCA building when decontamination by production personnel is completed and the Safety Department has declared the building clean.

5.2 It is the responsibility of the Production Department to perform the actual decontamination of the MOCA building.

ORDNANCE PRODUCTS

TEMPORARY **STANDARD OPERATING PROCEDURE**

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DEPARTMENT NO. _____ OPERATION NO. _____ PREPARED BY C. Lindsey DATE 11/19/8

5.3 It is the responsibility of the Regulatory Compliance Department to arrange for proper disposal of any residual MOCA and MOCA contaminated items.

5.4 It is the responsibility of the Materials Department to determine disposition of any scales, Air Force fixtures, 1/2 full drum of raw MOCA and any other materials applicable to this Department.

5.5 It is the responsibility of the Safety Department to clear the building for another use after completion of the decontamination procedure.

6.0 OPERATING PROCEDURE

6.1 Personnel will put on protective clothing and a respirator.

6.2 Place one of the 55 gallon drums at Point A (See attachment 1) in the entrance for collection of contaminated clothing, rags, etc. Place another 55 gallon drum at Point B (see attachment 1) for collection of contaminated items, also. The third drum is an extra if needed.

6.3 Wash down the "clean room" (see attachment 1) with soap and water beginning with the ceiling. Then wash down the walls, sink, shower, and the floor last. Deposit contaminated rags, etc. in the drum at Point A. Items in this room and the rest of the building that cannot be cleaned appropriately such as paper, debris, etc. should be placed in a drum for disposal.

6.4 Wash down the "storage area" and "entrance" (see attachment 1) beginning with ceilings, then wash walls, doors, etc. and the floor last. Deposit contaminated articles in the 55 gallon drum. After the above 3 rooms are decontaminated, personnel will have a "clean area" to wash hands and face, etc. before breaks; to shower at the end of the work day; and to leave their street clothes.

6.5 Maintenance personnel shall dismantle fans, exhaust hood and venting, temperature control unit, oven, and any other equipment that must be dismantled before being scrapped. Any large pieces of venting or equipment or filters that do not fit in a 55 gallon drum should be put in the polyethylene bags until a proper container can be acquired.

6.6 In the "raw MOCA area" are two MOCA containers - one empty and one half full. Place these in 55 gallon drums and pour in enough clay absorbent to cover the container, after they have been filled with various contaminated material.

ORDNANCE PRODUCTS

TEMPORARY **STANDARD OPERATING PROCEDURE**

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DEPARTMENT NO. _____ OPERATION NO. _____ PREPARED BY C. Lindsey DATE 11/19/8

6.7 Wash down "raw MOCA area" beginning with the ceiling. Then wash the walls, with scrub brush if a rag does not clean them sufficiently. Then wash the door, counters, shelves, etc. The oven, hood, and any other items to be scrapped should be put in polyethylene bags if 55 gallon drums are too small. Wash the floor last. Deposit contaminated rags, etc. in a 55 gallon drum.

6.8 Wash down the "dirty room" beginning with the ceiling. Then wash the walls, counters, cupboards, shelves, etc. Deposit contaminated rags etc. in a 55 gallon drum.

6.9 Wash down any other furniture in the "dirty room". Wash the floor last. Deposit contaminated rags, etc. in a 55 gallon drum.

6.10 Again wash down the "clean room" storage area, and entrance including ceilings, walls, floors, etc. and deposit rags and all contaminated cleaning supplies in a 55 gallon drum.

6.11 Wipe off outsides of 55 gallon drums with a damp rag, deposit rags in drum and label drums and polyethylene bags as in attachment 2.

6.12 When washing down of MOCA building is complete, the Safety Department will take smear samples to determine if the building is clean. Only after that determination is made will Maintenance Department be permitted to paint ceilings, walls, floors, etc.

ORDNANCE PRODUCTS

TEMPORARY **STANDARD OPERATING PROCEDURE**

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DEPARTMENT NO. _____ OPERATION NO. _____ PREPARED BY C. Lindsey DATE 11/19/8

7.0 WASTE PACKAGING INSTRUCTIONS

7.1 Stencil on the side of the drum in letters not less than 1/2" high "HAZARDOUS WASTE SOLID, N.O.S. - ORM E - NA 9189". Stencil "8512-CZ" on the top and upper third section of the drum. Complete a hazardous waste label as follows and apply it to the middle section of the drum. The label and stencil must appear on the same side of the drum. All other markings shall be applied prior to shipment to an off site disposal facility. (See Attachment 2 - waste packaging and labelling instructions.)

HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

HAZARDOUS WASTE

PROPER D.O.T. SHIPPING NAME SOLID, N.O.S. U.N. OR (N.A.) NO. 9189

GENERATOR NAME OLIN CORPORATION

ADDRESS P.O. DRAWER G

ORIGIN MARION, ILL. 62959

MANIFEST DOCUMENT NO. _____ ACCUMULATION START DATE _____

E.P.A. I.D. NO. ILD000802801 E.P.A. WASTE NO. U158

HAZARDOUS WASTE
HANDLE WITH CARE

29-HML J.J. KELLER & ASSOCIATES, INC. • NEENAH, WI 54956

003531

ORDNANCE PRODUCTS

TEMPORARY **STANDARD OPERATING PROCEDURE**

DESCRIPTION: MOCA DECONTAMINATION OF MOCA BUILDING AND THE DISMANTLING/SCRAPPING OF CONTAMINATED EQUIPMENT

PRODUCT _____ T.S O.P. NO. 85-298 REVISION N/C

DEPARTMENT NO. _____ OPERATION NO. _____ PREPARED BY C. Lindsey DATE 11/19/8

7.2 Apply small waste label as shown below to each polyethylene bag. Make sure bags are twisted shut at top and securely closed with tape.

WASTE: MOCA CONTAMINATED MATERIAL

DISPOSAL METHOD: TBD

GENERATING BLDG: MOCA BLDG.

DATE PACKAGED: (MONTH/DAY/YEAR)

8.0 MATERIAL HAZARDS

8.1 MOCA may be absorbed through the skin or inhaled as dust. Prevent contact with skin and inhalation of dust.

8.2 This material is a suspected carcinogen for humans.

8.3 Solvents are not to be used in the decontamination procedure. If MOCA is dissolved in a solvent, it is absorbed through the skin more quickly.

ORDNANCE PRODUCTS

SAFETY RULES

DESCRIPTION: MOCA DECONTAMINATION OF MOCA BUILDING AND THE DISMANTLING/SCRAPPING OF CONTAMINATED EQUIPMENT

PRODUCT _____ T. S.O.P. NO 85-298 REVISION N/C

DEPARTMENT NO. _____ OPERATION NO _____ PREPARED BY C. Lindsey DATE 11/19/85

9.0 SAFETY

Personnel involved with performing these operations are required to wear the following prescribed equipment and observe the rules as stated.

9.1 Personnel

9.1.1 Disposable and impermeable long sleeve coveralls
9.1.2 Safety shoes
9.1.3 Disposable shoe covers
9.1.4 Safety glasses
9.1.5 Half face filter type respirator
9.1.6 Neoprene or butyl rubber gloves
9.1.7 Personnel must be respirator approved and trained. Contact Medical and Safety Departments.
9.1.8 Personnel must be MOCA cleared. Contact Medical Department.
9.1.9 AVoid skin contact with MOCA dust or the solid form.
9.1.10 Avoid inhalation of MOCA dust.
9.1.11 Prior to each exit from a contaminated area, personnel will remove respirator wipe it off with soap and water if dusty (see drawing). Personnel will also remove protective clothing in the "dirty room" prior to each exit from a contaminated area and deposit it in the proper container for disposal.
9.1.12 On each exit from contaminated area, personnel will wash hands, forearms, face and neck.
9.1.13 Before reentering contaminated area, personnel will put on clean protective clothing.
9.1.14 At the end of each working day, personnel will shower with soap and water.
9.1.15 Get first aid immediately for any injury.
9.1.16 Report any accident or near accident immediately to your supervisor.
9.1.17 No storage or consumption of food, beverages, smoking materials, tobacco or chewing gum is permitted in the MOCA building.
9.1.18 As a precaution, personnel shall submit a urine sample when the decontaminating process is completed.
9.1.19 The Safety Department will take smear samples of the inside of the building after it has been decontaminated. Those samples will be sent to New Haven toxicology lab for analysis.
3.1.20 Personnel will use a minimal amount of water when washing down walls, etc. Contaminated water must be put in a properly labelled 55 gallon drum and mixed with clay absorbent.

OLIN

ORDNANCE PRODUCTS

TEMPORARY **STANDARD OPERATING PROCEDURE**

DESCRIPTION: MOCA DECONTAMINATION OF MOCA BUILDING AND THE DISMANTLING/SCRAPPING OF CONTAMINATED EQUIPMENT

PRODUCT _____ T.S O.P. NO. 85-298 REVISION N/C

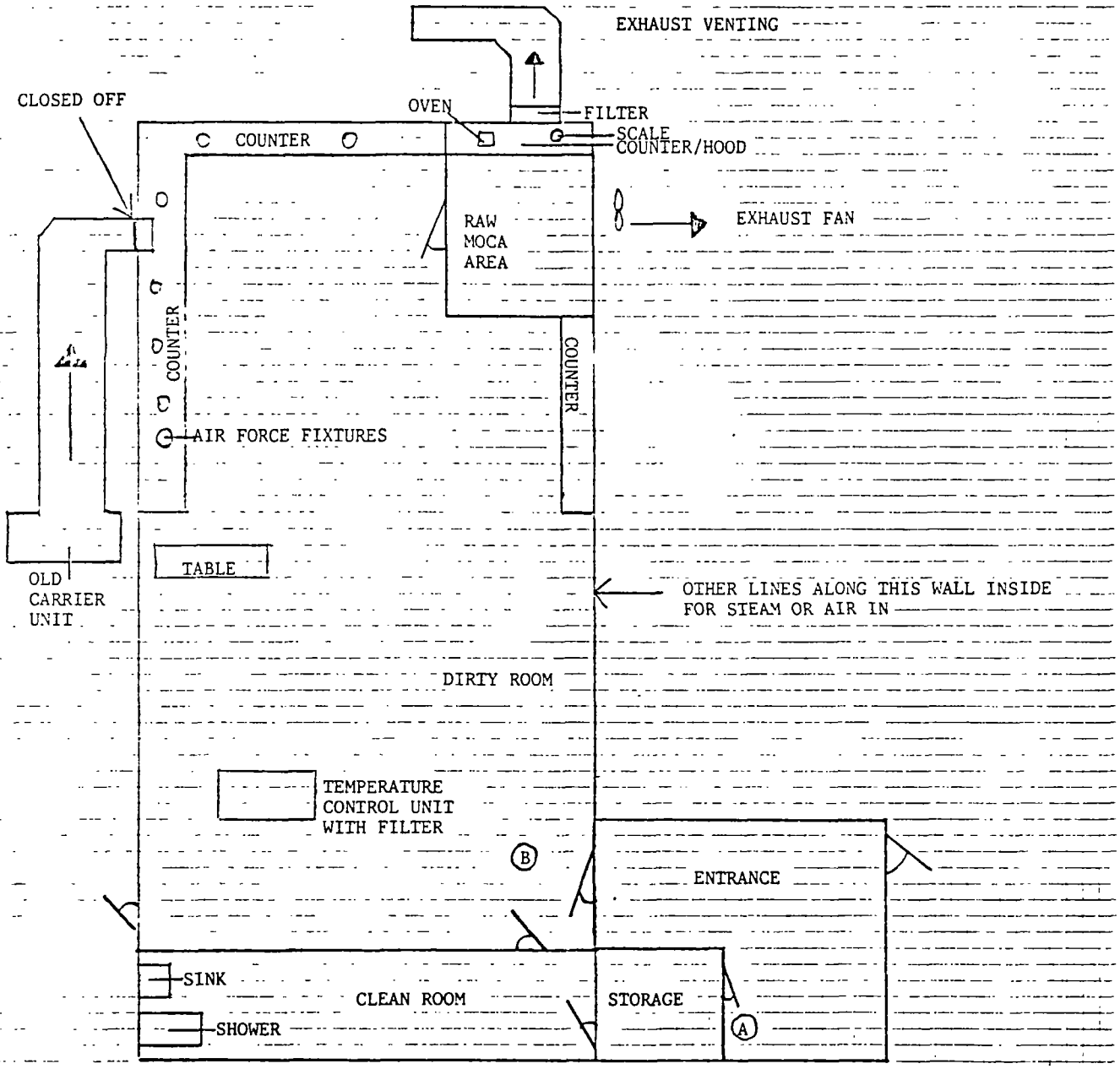
DEPARTMENT NO. _____ OPERATION NO _____ PREPARED BY C.Lindsey DATE 11/19/85

APPROVALS	INITIAL	DATE	REVISIONS
ENGINEERING	[signature]	11/27/85	REVISION NO _____ DATE _____
MATERIALS	KRM	12-4-85	REVISION NO _____ DATE _____
LOSS PREVENTION	PCC	11/25/85	REVISION NO _____ DATE _____
MANUFACTURING	DEB	11/29/85	REVISION NO _____ DATE _____
QUALITY ASSURANCE	[signature]	11/25/85	REVISION NO _____ DATE _____

REASON FOR CHANGE

REVISION:

N/C Temporary Procedure - Baseline issue



MOCA BUILDING

CECOS WASTE PACKAGING AND LABELLING INSTRUCTIONS FOR:
MOCA OR 4,4' - METHYLENEBIS (2-CHLOROANILINE)

CONSTITUENTS IN EACH DRUM INCLUDE:

4,4' - Methylenebis (2-Chloroaniline)
Debris (i.e. Paper, rags, dirt, clay absorbent, etc.)
(NOTE: Adriprene-Set up with MOCA is allowed)

WASTE CLASSIFICATION:

Hazardous waste (U158) as defined by R.C.R.A. regulated to be removed every 90 days.

PACKAGING INSTRUCTIONS:

Place MOCA and MOCA contaminated materials in a 55 gallon open top drum. Fill any void space with speedi-dry or clay absorbent. No free liquid is allowed. Shake the drum to pack the material and add more absorbent. Place a rubber gasket (optional) around the lid and secure the lid to the drum.

LABELLING INSTRUCTIONS:

Stencil "8512-CZ" on the top AND upper third section of the drum.

Stencil "Hazardous Waste Solid, N.O.S. - ORM E - NA 9189" on the middle section of the drum.

Apply proper hazardous waste label in middle section of drum.

MATERIAL HAZARDS:

Suspected carcinogen; avoid inhalation and skin contact. Wear appropriate protective clothing and respirators per Safety Procedure No. 45 as necessary.

OTHER:

Weigh the drum and record the weight:_____ Pounds Gross

Mark the weight on the drum.

PACKAGING COMPLETED BY _____ DATE:_____

SUPERVISED BY _____ DATE: _____

INSPECTED BY _____ DATE:_____

INTER OFFICE MEMO

TO Jean Schneiderman AT DATE 1-16-86

FROM Juanita Hartman AT COPY TO P.C. Cannon

SUBJECT Moca decontamination

Wipe samples from the Moca building were taken on 1-03-86 and the results were received at Olin per a phone call today from the Toxicology Department at New Haven. The analysis was negative for all of the samples #1-#9.

The decontamination is complete according to the analysis (no evidence of moca) and therefore, the Safety Department has declared the building clean and ready to be utilized by production as soon as we receive our Industrial Hygiene sampling form back from New Haven. This delay is necessary in order to verify the phone call.

Thank you,

Juanita Hartman
Safety Inspector

RECEIVED

JAN 17 1986

J. SCHNEIDERMAN

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD ONE YEAR _____ OTHER _____

OC-10000 REV. 1/81

INTER OFFICE MEMO

TO Distribution AT DATE 25 August 1988

FROM Investigation Committee AT COPY TO

SUBJECT Unidentified Flammable Material Outside D-1-11

Attached please find a copy of the final report concerning the above referenced incident.

Jim Pape 8/29/88
Jim Pape

Jean Schneiderman
Jean Schneiderman

Norm Wilkaitis 9/26/88
Norm Wilkaitis

JMS:jb

Distribution:

P. Cannon
C. Cox
C. Funk
A. Heinz
R. Hliwa
R. Hudson
D. Martin
C. Moore
J. Pape
T. Robinson
J. Schneiderman
N. Wilkaitis

003538

FINAL REPORT

Unidentified Flammable Material Outside D-1-11

Incident Date 4 August 1988

Investigation Committee

Jim Pape 8/29/88

Jim Pape

Jean Schneiderman

Jean Schneiderman

Norm Wilkaitis

Norm Wilkaitis

FINAL REPORT

Incident Investigation Committee

Unidentified Flammable Material Outside D-1-11

THE INCIDENT

At approximately 2:00 p.m. on Thursday, 4 August 1988, an unknown material was ignited near the southeast corner of D-1-11 as an outside contractor's backhoe was filling a trench. There were no injuries and no property or equipment damage.

The material was apparently excavated when the trench was dug to install electrical service to D-1-15 during the installation of the pellet regranulation equipment. There was no incident at the time of digging and no spontaneous ignition of the material on the ground. As the operator was filling the trench, the friction from the bucket on the fill material apparently ignited the unknown substance. The flames from the ignition self extinguished.

The immediate area was secured, and a sample of the material was taken to the P area laboratory for analysis.

BACKGROUND INFORMATION

D-1-11 and the surrounding buildings are used by Olin for pressing high explosive pellets for 20MM HEI and 30MM HEDP, and for storage of the associated explosive materials. Before Olin occupied the D area, this building was used by Universal Match as a production facility. Conversations with past and present Universal Match employees leads the committee to believe that delay mixes and igniter mixes were produced in D-1-11. There is a strong possibility that the building was regularly washed down into a settling basin in the general vicinity of the incident. There is also a possibility that a similar area exists at the northwest corner of D-1-11.

John Fronabarger of Unidynamics-Phoenix was contacted concerning the usage of D-1-11 by Universal Match. He said that he was in R&D and worked in some B area buildings and that D-1-11 was a production building used for delays and igniters in the 1960's. He was unable to be more specific. Tom Throgmorton of Winn-Star was contacted since he was also associated with Universal Match. He was also in R&D and could not contribute any specific information concerning this material.

003540

PRELIMINARY ANALYSIS

Porta-Spec analysis indicated the presence of Chromium, Copper, Iron, Strontium, and possibly Molybdenum. FTIR analysis indicated Phosphorous. All of these elements would be expected in the manufacture of igniter and delay mixes. Delay mixes containing Copper Chromate or Barium Chromate are among the more common formulations. Phosphorous is a common ingredient in match and igniter formulations.

A complete elemental analysis was performed in the East Alton analytical laboratory from a sample prepared in the P area. Due to DOT restrictions concerning unclassified explosives, the sample was ashed at Marion, and the residue was sent to East Alton. Results of the analysis are attached.

EVALUATION OF LABORATORY RESULTS

Evaluation of the emission spectra laboratory results indicate the following possible materials:

Barium Chromate

Calcium Chromate

Zirconium metal

Phosphorous

Barium Peroxide or Barium Nitrate

Aluminum and Magnesium metal or alloys

These are consistent with materials used in delay and igniter mixes.

It should be noted that the samples taken appeared to be highly contaminated and showed an olive green to green color typical of chromate delay mixes. The spectra results; however, show very low levels of metals except for Barium, Chromium, Zirconium, and Calcium. This would indicate the dilution of the delay and igniter mixes perhaps by the addition of inert materials or soil. Barium and Calcium chromates have been used as pigments, and the observed color of the samples is consistent with chromate delay mixes using metals such as Zirconium, Tungsten, or Molybdenum.

RECOMMENDATIONS

1. Collect and bury at the site the identifiable exposed pieces of material. Cover the entire exposed area with topsoil and level the cover. Seed the area with grass seed to prevent erosion of the cover.

2. Post a legendary sign at the site that reads:

   DO NOT EXCAVATE THE AREA TEN FEET PARALLEL TO THE SIDEWALK BETWEEN THE BUILDING (D-1-11) AND THE ROAD.

3. Post a sign at the northwest corner of D-1-11 that reads:

   CAUTION - SUSPECT AREA
   EXCAVATION SHOULD BE AVOIDED.

4. There is no danger with continuing to operate D-1-11 or starting the pellet regranulating operation since the affected area is outside both buildings. Contamination with these materials inside D-1-11 is highly unlikely since the building has burned and been rebuilt at least twice in recent years.

5. A preliminary review of regulations indicates that Olin is not under legal obligation to report this incident. Management at Marion should discuss this incident with the Olin Legal Department to preclude any future problems. In addition, the final decision on reporting the incident to any regulatory agencies should be referred to the Legal Department.

R & D ANALYTICAL REPORT

JIM PAPE Lab#1686 15 AUG 1988
copy: N.Wilkaitus

SAMPLE: BURNING DIRT

EMISSION SPEC ANALYSIS of ashed sample:

EA Lab # 1422

ELEMENT	PERCENT	ELEMENT	PERCENT
Be	<0.001	Sn	0.05
Zn	0.04	Cr	1.36
As	0.005	Al	0.64
Cu	0.01	B	0.005
Cd	<0.001	Se	0.003
Sb	0.01	P**	0.17
Mn	0.37	V	0.006
Ni	0.005	Zr	2.24
Fe	0.74	Mo	0.002
Si	0.66	W	0.03
Mg	0.81	Ca	4.58
Co	0.003	Sr	0.05
Ti	0.07	Ba	11.14
Pb	0.03		

FT-IR

** FT-IR analysis indicated the presence of Phosphorus. Phosporus would have been burned off during the ashing process. So the emission spec results will much to low for Phosphorus.

FORM OM-10000 REV. 961

INTEROFFICE MEMO Olin

TO R. D. Altekruse AT DATE 19 July 1979

FROM R. A. Brown AT COPY TO W. Attebury
N. J. Wilkaitis

SUBJECT Oil Spill 7-12-79

Approximately 2500 gallons of fuel oil were accidentally dumped in the D Area on July 12, 1979.

Grading work for the new LUU-10B buildings apparently broke an oil standpipe remaining at the previous location of the above-ground fuel oil tanks. When a 6000-gallon delivery of fuel oil was received on July 12 almost half of it ran out on the ground around the new east bunker and a portion overflowed into the drainage ditch running southwest to the company property line.

Immediate steps to prevent the spillage from reaching the lake included:

1) Cutting trenches to hold oil on ground around bunker to prevent run-off into ditch.

2) Shutting down all operations contributing water flow in the drainage ditch.

3) Blocking water flow in ditch below boiler and at road with earth fill.

4) Purchased 60 bales of straw and constructed straw dams at property fence and 2 positions downstream to Wolf Creek Road to catch oil.

By the use of a hand-powered diaphragm pump and later, a gas-powered pump, the largest water-oil pool in the ditch at the fence line was pumped into forty 55-gallon drums. Later, a 1000 gallon tank was placed on a flat-bed truck and used for collecting water from the ditch. The water in the drums was also transferred into this tank.

Inspection of the ditch downstream from the fence showed no evidence of oil past the straw dams.

The pools of raw oil trapped at ground level near and within the bunker were pumped into eight 55-gallon drums and appear to be only slightly contaminated with dirt. These drums will be kept at the boiler house and the oil will be used for propellant scrapping purposes.

The ditches by 7-16-79 were essentially clear of water were then bush-hogged and filled with straw to soak up any oil residue. At the same time the contaminated soil around and within the east bunker was scraped up and hauled to the landfill. After 2-3 days, the straw was removed from the ditches and also hauled to the landfill.

The 1000 gallon tank was hauled to the Test Range and the water was dumped into the pond at the end of the road beyond the burning pits. This area has no drainage into the strip pits and is suitable for holding the water until the oil is evaporated or absorbed. Again, very little oil was visible when this material was dumped.

At present a new oil line is being laid bypassing the break in the line in the area of the east bunker.

The raw oil salvaged and the oil dumped with the water account for about 500 gallons. The remainder of the estimated 2500 gallons spilled is presumed to have been soaked up and disposed with the waste straw and dirt. It is possible, however, that traces of oil will appear on the surface of the ground around the east bunker.

R. A. Brown

R. A. Brown

/jah

PRIVILEGED DOCUMENT OUT SHEET

Privileged Document Cover Sheet Number: 003546

to 003813

United States Department of the Interior

FISH AND WILDLIFE SERVICE

IN REPLY REFER TO:

Crab Orchard National Wildlife Refuge
P.O. Box J
Carterville, Illinois 62918

March 27, 1984

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. R. A. Wilkie, Sr.
Supreme Plating Company
Post Office Box 489
Herrin, Illinois 62948

Dear Mr. Wilkie:

Attached is a photo-copy of a letter dated March 22, 1984, received from the Illinois Environmental Protection Agency, regarding the results of the tests taken on January 11, 1984, from the old acid filter tank adjacent to Supreme Plating Company building number S-2-4.

The test results have confirmed the waste materials dumped by Supreme Plating into this tank contained signigicant levels of cadmium, lead and zinc and are not to be processed through our refuge sewer treatment plant.

This letter will serve as our official notification for you to take the necessary action, within 60 days of the receipt of this letter, to dispose of the approximate 9,600 gallons of waste materials through approved methods prescribed by Illinois Environmental Protection Agency. Any costs incurred in the disposal process such as further testing, permits, transportation, etc., shall be borne by you.

Please keep us advised of your disposal process. Should you have questions or require further information regarding this matter, please contact Mr. Doyle Case, Contract Specialist, of this office.

Sincerely yours,

Wayne D. Adams
Project Manager

Attachments
Copy to: Mr. Paul Freeman, IL State Police (2 copies w/attach)
Mr. Ed Hosey, IL EPA (2 copies w/attach)

003814

ILLINOIS
Environmental Protection Agency
2209 W. Main Marion, IL. 62959

618/997-4371

March 22, 1984

Crab Orchard Refuge - Supreme Plating Company Wastes

Wayne Adams, Project Manager
Crab Orchard National Wildlife Refuge
P. O. Box J
Carterville, Illinois 62918

Dear Mr. Adams:

This will confirm and augment discussions between Doyle Case of your staff and Environmental Protection Specialist Ed Hosey of this office regarding the operations of Supreme Plating Company at your Refuge facilities.

On January 11, 1984 Mr. Hosey and Illinois State Trooper Paul Freeman, responding to an anonymous complaint regarding the dumping of wastes, inspected the Supreme Plating Company operations at Building A-4 on Refuge property. They were accompanied by Joe DeJulio, Refuge Fire Chief. During the inspection it was determined that a liquid waste had been abandoned in an old acid filter tank at the former Supreme Plating Company operations. This filter tank was constructed so as to allow discharge to the sanitary sewer tributary to the Crab Orchard Refuge wastewater treatment plant. In order to prevent discharge of the material into the sanitary sewer system this outlet was sealed by Refuge personnel shortly thereafter. Since the inspection, Mr. Hosey was informed that approximately 9600 gallons of the material are present at the site and that the Refuge is in the process of terminating the lease with Robert A. Wilkie, owner of Supreme Plating Company, P. O. Box 489, Herrin, Illinois.

During the beforementioned inspection a sample of the waste material was collected and analyzed by this Agency. The analysis (form enclosed) indicates significant levels of cadmium, lead, and zinc present in the waste material. A review of our records concerning your Refuge facility indicates that Supreme Plating Company has been discharging a wastewater to your sanitary sewer system containing these constituents. This information was provided to this Agency on October 21, 1980 as part of a sampling program of industrial users conducted by the Refuge.

Because of the quantity and the characteristics of this contained waste, it is recommended that appropriate off site disposal be considered. Based on our analysis, this material may exhibit characteristics which would classify it as a hazardous waste. Consequently, additional sampling is necessary, as discussed with Mr. Case, before a final disposal site can be determined by this Agency. It was recommended that the E.P. toxicity test be performed on this waste to determine whether it is classified as a hazardous waste in accordance with Section 721.120 of 35 Illinois Administrative Code Subtitle G: Waste Disposal Regulations of the Illinois Pollution Control Board. After the results of this toxicity testing are received, contact Kenneth Mensing, Manager, Field Operations Section, Division Land Pollution Control, 113 West Main Street, Collinsville or telephone 618/345-4606 regarding disposal options and permit requirements.

...chard Refuge
... Plating Company Wastes

We wish to inform you that the discharge of industrial wastes into your sewer ... tributary to the Refuge treatment plant may interfere with the treatment ..., limit the disposal alternatives for sludge from the treatment plant, or ... through the plant and cause a violation of the permitted discharge limitations ... appropriate pre-treatment controls are practiced by industrial users.

... you have any questions regarding the contents of this letter or if we can ... help ...

...
Field Operations Section
Division Water Pollution Control

...:br

cc: Paul Freeman, Illinois State Police
Ken Mensing, DLPC, Collinsville
DWPC/RU

Attachment

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

Collected 10:30 AM Sub-Basin Marion

Collected 1/11/84 Collector Ed Hosey

Facility Name: Facility Number: File Town

Stream Name(s) Stream Code:

Sample: (Exact Location) Sample taken from a settling tank prior to entry into the Crab Orchard NWR sewer system

Physical Observations, Remarks: Suspect waste dumping from a chromium plating operation. Strong H_2S odor with a red color on the surface of the waste.

Time	Field Dissolved Oxygen	Field pH	Field Temp.
0.16 Arsenic 5.0	Coliform/100ml		BOD
2.0 Barium 100.0	Fecal Coliform 100 ml		COD
6.2 Boron	Fecal Strep 100 ml		TS/[illegible]
8.0 Cadmium 1.0	Algae (Total) /ml		Susp. Solids
1.2 Copper	Ammonia (N)		Vol. Susp. Solids
0.36 Chromium (tri) 5.0	Organic Nitrogen (N)	11.6	pH (units) 12.5
0.0 Chromium (hex)	Nitrate + Nitrite (N)		Turbidity (Jib)
130. Iron (Total)	Phosphorus (P)		Hardness
Iron (Dissolved)	Chloride		Alkalinity
2.7 Lead	Fluoride		Total Acidity
2.4 Manganese	Sulfate		Free Acidity
Mercury (ppb) 0.2	Cyanide	118.	Oil
1.5 Nickel	MBAS		Other (Specify)
0.009 Selenium 1.0	Phenol (ppb)		
0.01 Silver 5.0			
250. Zinc			

Results in mg/l unless otherwise noted.

Recycled Paper

MARION-REGION VII
RECEIVED
MAR 05 1984
FOS/DWPC

Transported by: Ed Hosey
Received by:
Transported by:
Received by:

FOR LAB USE ONLY

Lab Number: B 20661 Rec'd by: [illegible]
Date sample rec'd: JAN 12 1984 Time: [illegible]
Date analysis completed: MAR 2 1984
Date results forwarded:
Total Tests requested: Tests run:
Lab Section: CHAMPAIGN Supervisor:

003817

PRIVILEGED DOCUMENT OUT SHEET

Privileged Document Cover Sheet Number: 3819

3821

Olin Corporation - Marion, Illinois
July 17, 1989

ATTACHMENT

Application for Operating Permit Renewal

Application No.: 73030720

I.D. No.: 199862AAB

Operation of: Boiler (one emission source)

Permit Expiration: November 8, 1989

Changes are as follows:

FACILITY CONTACT:
Was: Arthur Heinz, Jr., Director
Now: R. R. Hudson, Manager, Administration

STREET ADDRESS OF OWNER AND OPERATOR:
Was: P.O. Drawer G
Now: P.O. Box 278, Route 148 South

NAME OF CORPORATE DIVISION OR PLANT:
Was: Ordnance Products
Now: Marion Operations

BOILER MODEL NUMBER:
Was: H45655
Now: SPHC100-N2-94222

BOILER SERIAL NUMBER:
Was: IND 141082
Now: 69-4077 H45655

Illinois Environmental Protection Agency 2200 Churchill Road, Springfield, IL 62706

217/782-2113

OPERATING PERMIT

PERMITTEE

Olin Corporation
Post Office Drawer G
Marion, Illinois 62959

Attention: G. W. Barton

Application No.: 73030720 I.D. No.: 199862AAB
Applicant's Designation: BOIL-B2384 Date Received: September 19, 1984
Subject: Indirect Heat Boiler
Date Issued: November 14, 1984 Expiration Date: November 8, 1989
Location: Crab Orchard Wildlife Refuge, Marion, Illinois

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of an indirect heat boiler as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. This permit is issued based upon moving an indirect heat boiler from its present location at Area "P" to Area "B" without any increase in emissions above those previously allowed.

Bharat Mathur, P.E.
Manager, Permit Section
Division of Air Pollution Control

BM:DMH:jab/2124D/26

cc: Region 3

001456

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR OPERATING PERMITS

1 The issuance of an operating permit by the Agency does not release the permittee from compliance with other applicable statutes of the State of Illinois or with applicable local laws, regulations or ordinances

2 The Agency has granted this permit based upon the information submitted by the permittee in the permit application Any misinformation, false statement of misrepresentation in the permittee's application shall be grounds for revocation under Rule 103(f), Chapter 2, Part 1 of the Illinois Pollution Control Board Rules and Regulations

3 The permittee shall not authorize, cause, direct or allow any modification, as defined in Rule 101, Chapter 2, Part 1 of the Illinois Pollution Control Board Rules and Regulations, of equipment, operations or practices which are reflected in the permit application as submitted unless a new application or request for revision of existing application is filed with the Agency at least ninety (90) days prior to the time of such modification and unless a new permit or revision of existing permit is granted for such modification

4 At any time during normal working and/or operating hours, any agent of the Environmental Protection Agency shall have the right and authority to inspect the equipment and operations described by the permit application Permittee agrees to allow such inspections This authority:

(a) shall not in any manner affect the title to the premises upon which such equipment is located,

(b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of, the design, installation, maintenance, or operation of such equipment, and

(c) in no manner implies or suggests that the Environmental Protection Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of such equipment

5 The equipment covered by this permit shall be operated in such a manner that the disposal of air contaminants collected by the equipment shall not cause a violation of the Environmental Protection Act or Regulations promulgated thereunder

6 The permittee shall maintain the equipment in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or Regulations promulgated thereunder

7 The permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment This record shall be available to any agent of the Environmental Protection Agency at any time during normal working and/or operating hours This record shall show, as a minimum, the:

(a) date of performance of, and nature of, preventative maintenance, and

(b) date of any malfunction or breakdown and the nature of repairs to, or corrective measures performed to maintaining the performance of the equipment

8 The permittee shall submit annually, beginning one year from the date of this operating permit, an "Annual Emission Report," form APC-208, as required by Rule 107 of the PCB Regs , Chapter 2, Part 1 (Note If the permittee has other operating permits for this facility, he may submit the "Annual Emission Report" for all such permits in a single annual submission)

9 **If the permit application contains a "Compliance Program and Project Completion Schedule,"** form APC-202, the permittee shall submit a "Project Completion Report" form APC-271, within thirty (30) days of any date specified in the "Compliance Program and Project Completion Schedule" or at six month intervals, whichever is more frequent

10 **If the permit contains permission to operate in excess of applicable emission standards during startup,** the permittee shall keep a record of each startup, *including information as to the length of time that such operation exceeded applicable standards and limitations, and a detailed explanation of why such startup* was necessary

11 **If the permit contains permission to operate in excess of applicable emission standards during malfunctions or breakdowns,** the permittee shall immediately notify the Agency's regional Field Operations Section office by telegram upon occurrence of malfunction or breakdown, and comply with all directives of the regional office with respect to the incident (See map on reverse side)

The permittee shall maintain records of such malfunctions or breakdowns These records shall include a full and detailed explanation of why such breakdown occurred, the length of time during which operation continued under conditions and malfunction or breakdown; the measures the permittee used to reduce the length of time of such operation, and the steps the permittee will take to prevent future similar malfunctions or breakdowns This record shall be available to any agent of the Environmental Protection Agency at any time during normal working and/or operating hours.

The permittee shall not continue operation during malfunction or breakdown beyond such time as is necessary to prevent injury to persons or severe damage to equipment or to provide essential services

Revised 8/1/83

DIRECTORY
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL

For assistance in preparing a permit application contact the Permit Section.

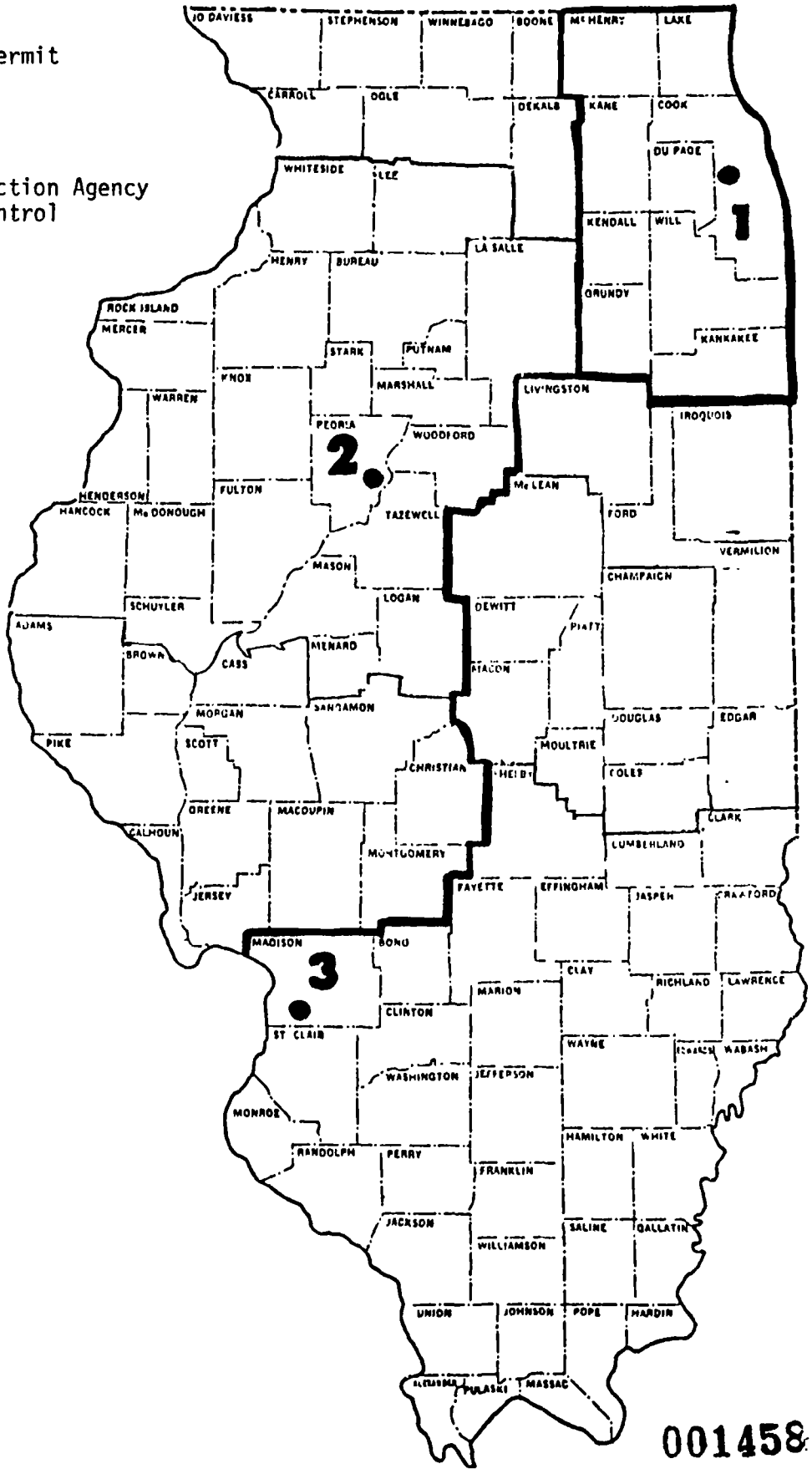
Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section
2200 Churchill Road
Springfield, Illinois 62706
(217) 782-2113

or a regional office of the Field Operations Section. The regional offices and their areas of responsibility are shown on the map. The addresses and telephone numbers of the regional offices are as follows:

Region 1
Intercontinental Center
Suite 1205 - 1701 1st Avenue
Maywood, Illinois 60153
(312) 345-9780

Region 2
5415 North University
Peoria, Illinois 61614
(309) 691-2200

Region 3
115A West Main
Collinsville, Illinois 62234
(618) 345-0700



001458

Olin

P O DRAWER G, MARION, ILLINOIS 62959 • PHONE AC 618 985-8211

ORDNANCE PRODUCTS

14 September 1984

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

ATTENTION: Mr. Bharat Mathur, Permits Section

Dear Mr. Mathur:

In compliance with Title 35: Environmental Protection, Subtitle B: Air Pollution, Chapter I: Pollution Control Board, Part 201, enclosed herewith are provided three copies of a Construction and Operating Permit Application for the installation and operation of an indirect heat boiler in the area Olin Corporation designates as the "P" Area.

This new boiler designated as BOIL-P-84 would replace equipment, that was destroyed by fire 14 June 1984. Since the equipment was destroyed, it is requested that the permit be withdrawn, i.e. Permit I.D. Number 199862AAB P-80-1.

In compliance with Part 201, also enclosed herewith are provided three copies of a Construction Permit Application for the removal of an indirect heat boiler in the area Olin Corporation designates as the "P" Area and relocation to the area designated as the "B" Area. This boiler now designated as BOIL-B2384 in the Construction Permit Application, has an operating permit, i.e. Permit I.D. No. 199862AAB BOIL P-1-11. It is requested that the operating permit remain. APC 240 has been included to address changes and supersedes the original permit application information.

Per telephone conversations with Mr. Chris Romaine, IEPA Permits Section, on September 11 and 13, 1984, the situation was discussed. Mr. Romaine advised Olin as to how best to handle the situation and what IEPA forms should be completed, including the fact that a Construction and Operating Permit Application Form APC 200 could be "marked" for both.

If additional information or clarification is needed, please contact the undersigned at 618/985-8211.

Cordially yours,

G.W. Barton, P.E.
Manager, Regulatory Complaince

JMS:GWB/kc

Enclosures: 1.) 3 copies APC 200 Construct/Operate Permit Application (BOIL-P-84)

2.) 3 copies APC 200 Construct Permit Application (BOIL-B2384)

Illinois Environmental Protection Agency 2200 Churchill Road, Springfield, IL 62706

217/782-2113

CONSTRUCTION PERMIT

PERMITTEE

Olin Corporation
Post Office Drawer G
Marion, Illinois 62959

Attention: G. W. Barton

Application No.: 84090067 I.D. No.: 199862AAB
Applicant's Designation: BOIL-B2384 Date Received: September 19, 1984
Subject: Indirect Heat Boiler
Date Issued: November 14, 1984
Location: Crab Orchard Wildlife Refuge, Marion, Illinois

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of an indirect heat boiler as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. This permit is issued based upon moving an indirect heat boiler from its present location at Area "P" to Area "B" without any increase in emissions above those previously allowed.

Bharat Mathur, P.E.
Manager, Permit Section
Division of Air Pollution Control

BM:DMH:jab/2124D/23

cc: Region 3

RECEIVED
NOV 26 1984
G. W. BARTON

001461

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

REFERENCE: I.D. NO. 199862AAB
BOIL P-1-1/OPERATING PERMIT

APPLICATION FOR A PERMIT (A)
☒ CONSTRUCT ☐ OPERATE

NAME OF EQUIPMENT TO BE CONSTRUCTED OR OPERATED: INDIRECT HEAT BOILER (B)

FOR AGENCY USE ONLY
I. D. NO.
PERMIT NO.
DATE

1a. NAME OF OWNER: OLIN CORPORATION		2a. NAME OF OPERATOR: OLIN CORPORATION	
1b. STREET ADDRESS OF OWNER: P.O. DRAWER G		2b. STREET ADDRESS OF OPERATOR: P.O. DRAWER G	
1c. CITY OF OWNER: MARION		2c. CITY OF OPERATOR: MARION	
1d. STATE OF OWNER: ILLINOIS	1e. ZIP CODE: 62959	2d. STATE OF OPERATOR: ILLINOIS	2e. ZIP CODE: 62959

3a. NAME OF CORPORATE DIVISION OR PLANT: ORDNANCE PRODUCTS		3b. STREET ADDRESS OF EMISSION SOURCE: CRAB ORCHARD WILDLIFE REFUGE		
3c. CITY OF EMISSION SOURCE: RURAL MARION	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	3e. TOWNSHIP: N/A	3f. COUNTY: WILLIAMSON	3g. ZIP CODE: 62959

4. ALL CORRESPONDENCE TO: (TITLE AND/OR NAME OF INDIVIDUAL) G.W. BARTON-MGR. REGULATORY COMPLIANCE	5. TELEPHONE NUMBER FOR AGENCY TO CALL: (618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) ☒ OWNER ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR DESIGNATION FOR THIS APPLICATION: (C) BOIL-B2384

8. THE UNDERSIGNED HEREBY MAKES APPLICATION FOR A PERMIT AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. BY AFFIXING HIS SIGNATURE HERETO HE FURTHER CERTIFIES THAT HE IS AUTHORIZED TO EXECUTE THIS APPLICATION.

AUTHORIZED SIGNATURE(S): (D)

BY [signature] SIGNATURE — 9/18/84 DATE

ARTHUR HEINZ, JR.
TYPED OR PRINTED NAME OF SIGNER

DIRECTOR
TITLE OF SIGNER

BY _____ SIGNATURE — _____ DATE

_____
TYPED OR PRINTED NAME OF SIGNER

_____
TITLE OF SIGNER

(A) THIS FORM IS TO PROVIDE THE AGENCY WITH GENERAL INFORMATION ABOUT THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS FORM MAY ONLY BE USED TO REQUEST ONE TYPE OF PERMIT - CONSTRUCTION OR OPERATION - AND NOT BOTH.

(B) ENTER THE GENERIC NAME OF THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS NAME WILL APPEAR ON THE PERMIT WHICH MAY BE ISSUED PURSUANT TO THIS APPLICATION. THIS FORM MUST BE ACCOMPANIED BY OTHER APPLICABLE FORMS AND INFORMATION.

(C) PROVIDE A DESIGNATION IN ITEM 7 ABOVE WHICH YOU WOULD LIKE THE AGENCY TO USE FOR IDENTIFICATION OF YOUR EQUIPMENT. YOUR DESIGNATION WILL BE REFERENCED IN CORRESPONDENCE FROM THIS AGENCY RELATIVE TO THIS APPLICATION. YOUR DESIGNATION MUST NOT EXCEED TEN (10) CHARACTERS.

(D) THIS APPLICATION MUST BE SIGNED IN ACCORDANCE WITH PCB REGS., CHAPTER 2, PART 1, RULE 103(a)(4) OR 103(b)(5) WHICH STATES: "ALL APPLICATIONS AND SUPPLEMENTS THERETO SHALL BE SIGNED BY THE OWNER AND OPERATOR OF THE EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT, OR THEIR AUTHORIZED AGENT, AND SHALL BE ACCOMPANIED BY EVIDENCE OF AUTHORITY TO SIGN THE APPLICATION."

IF THE OWNER OR OPERATOR IS A CORPORATION, SUCH CORPORATION MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF THE CORPORATION'S BOARD OF DIRECTORS AUTHORIZING THE PERSONS SIGNING THIS APPLICATION TO CAUSE OR ALLOW THE CONSTRUCTION OR OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

9. DOES THIS APPLICATION CONTAIN A PLAN/MAP

☒ YES ☐ NO SEE PAGE 3 OF 16

IF A PLOT PLAN/MAP HAS PREVIOUSLY BEEN SUBMITTED, SPECIFY:

AGENCY I.D. NUMBER _____ APPLICATION NUMBER _____

IS THE APPROXIMATE SIZE OF APPLICANT'S PREMISES LESS THAN 1 ACRE?

☐ YES ☒ NO · SPECIFY 200 ACRES

10. DOES THIS APPLICATION CONTAIN A PROCESS FLOW DIAGRAM(S) THAT ACCURATELY AND CLEARLY REPRESENTS CURRENT PRACTICE.

☒ YES ☐ NO

SEE PAGE 4 OF 16

11a. WAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, OWNED OR CONTRACTED FOR, BY THE APPLICANT PRIOR TO APRIL 14, 1972·

☒ YES ☐ NO SEE PAGE 5 OF 16

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT A, THAT:
- (a) LISTS OR DESCRIBES THE EQUIPMENT
- (b) STATES WHETHER THE EQUIPMENT WAS IN COMPLIANCE WITH THE RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION PRIOR TO APRIL 14, 1972.

11b. HAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, NOT PREVIOUSLY RECEIVED AN OPERATING PERMIT:

☐ YES ☒ NO REFERENCE I.D. NO. 199862AAB BOIL P-1-

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT B, THAT·
- (a) LISTS OR DESCRIBES THE EQUIPMENT
- (b) STATES WHETHER THE EQUIPMENT
  - (i) IS ORIGINAL OR ADDITIONAL EQUIPMENT
  - (ii) REPLACES EXISTING EQUIPMENT, OR
  - (iii) MODIFIES EXISTING EQUIPMENT
- (c) PROVIDES THE ANTICIPATED OR ACTUAL DATES OF THE COMMENCEMENT OF CONSTRUCTION AND THE START-UP OF THE EQUIPMENT

12. IF THIS APPLICATION INCORPORATES BY REFERENCE A PREVIOUSLY GRANTED PERMIT(S), HAS FORM APC-210, "DATA AND INFORMATION--INCORPORATION BY REFERENCE" BEEN COMPLETED.

☐ YES ☒ NO

APPLICATION FOR OPERATING PERMIT ONLY

N/A

13. DOES THE STARTUP OF AN EMISSION SOURCE COVERED BY THIS APPLICATION PRODUCE AIR CONTAMINANT EMISSION IN EXCESS OF APPLICABLE STANDARDS:

☐ YES ☐ NO

IF "YES," HAS FORM APC-203, "OPERATION DURING STARTUP" BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

14. DOES THIS APPLICATION REQUEST PERMISSION TO OPERATE AN EMISSION SOURCE DURING MALFUNCTIONS OR BREAKDOWNS:

☐ YES ☐ NO

IF "YES," HAS FORM APC-204, "OPERATION DURING MALFUNCTION AND BREAKDOWN" BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

15. IS AN EMISSION SOURCE COVERED BY THIS APPLICATION SUBJECT TO A FUTURE COMPLIANCE DATE:

☐ YES ☐ NO

IF "YES," HAS FORM APC-202, "COMPLIANCE PROGRAM & PROJECT COMPLETION SCHEDULE," BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

16. DOES THE FACILITY COVERED BY THIS APPLICATION REQUIRE AN EPISODE ACTION PLAN (REFER TO GUIDELINES FOR EPISODE ACTION PLANS)·

☐ YES ☐ NO

17. WAS THIS OPERATION THE SUBJECT OF A VARIANCE PETITION FILED WITH THE ILLINOIS POLLUTION CONTROL BOARD ON OR BEFORE JUNE 13, 1972·

☐ YES ☐ NO

IF "YES," CITE· PCB NUMBER(S) _____, DATE OF BOARD ORDER _____

WAS CONSTRUCTION OR MODIFICATION OF EQUIPMENT, SUFFICIENT TO ACHIEVE COMPLIANCE WITH THE "RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION" EFFECTIVE PRIOR TO APRIL 14, 1972, COMMENCED PRIOR TO APRIL 14, 1972:

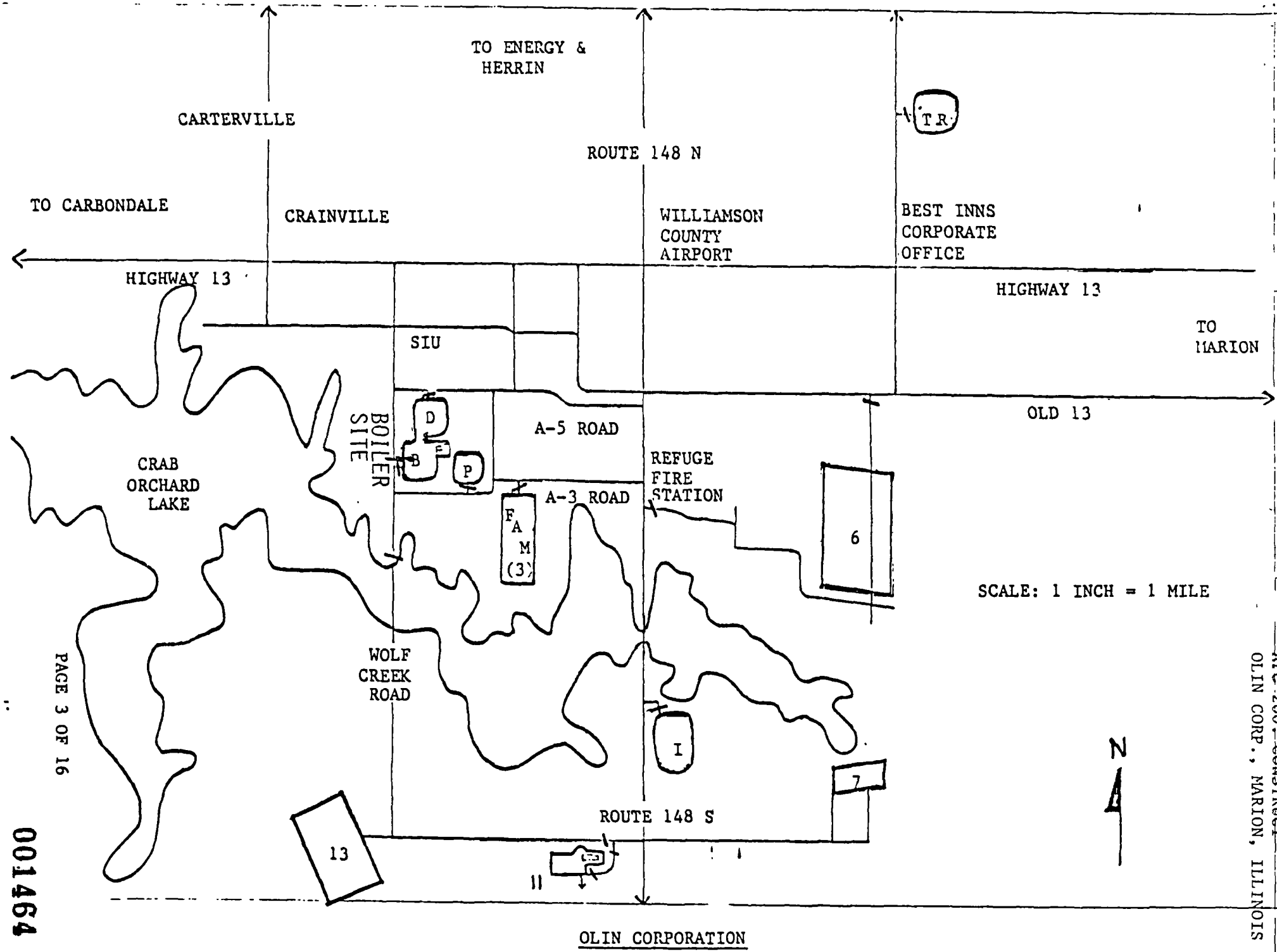
☐ YES ☐ NO

IF "YES," EXPLAIN IN DETAIL, AND IDENTIFY EXPLANATION AS EXHIBIT D.

18. LIST AND IDENTIFY ALL FORMS, EXHIBITS, AND OTHER INFORMATION SUBMITTED AS PART OF THIS APPLICATION. INCLUDE THE PAGE NUMBERS ON EACH ITEM (ATTACH ADDITIONAL SHEETS IF NECESSARY):

	PAGE NUMBER
APC 200	1, 2
PLOT PLAN	3
PROCESS FLOW DIAGRAM	4
EXHIBIT A	5
APC 240	6, 7, 8
CERTIFICATE OF LOCAL ZONING APPROVAL	9
ADDENDUM	10
DELEGATION OF AUTHORITY	11, 12, 13, 14, 15, 16

TOTAL NUMBER OF PAGES 16



PLOT PLAN

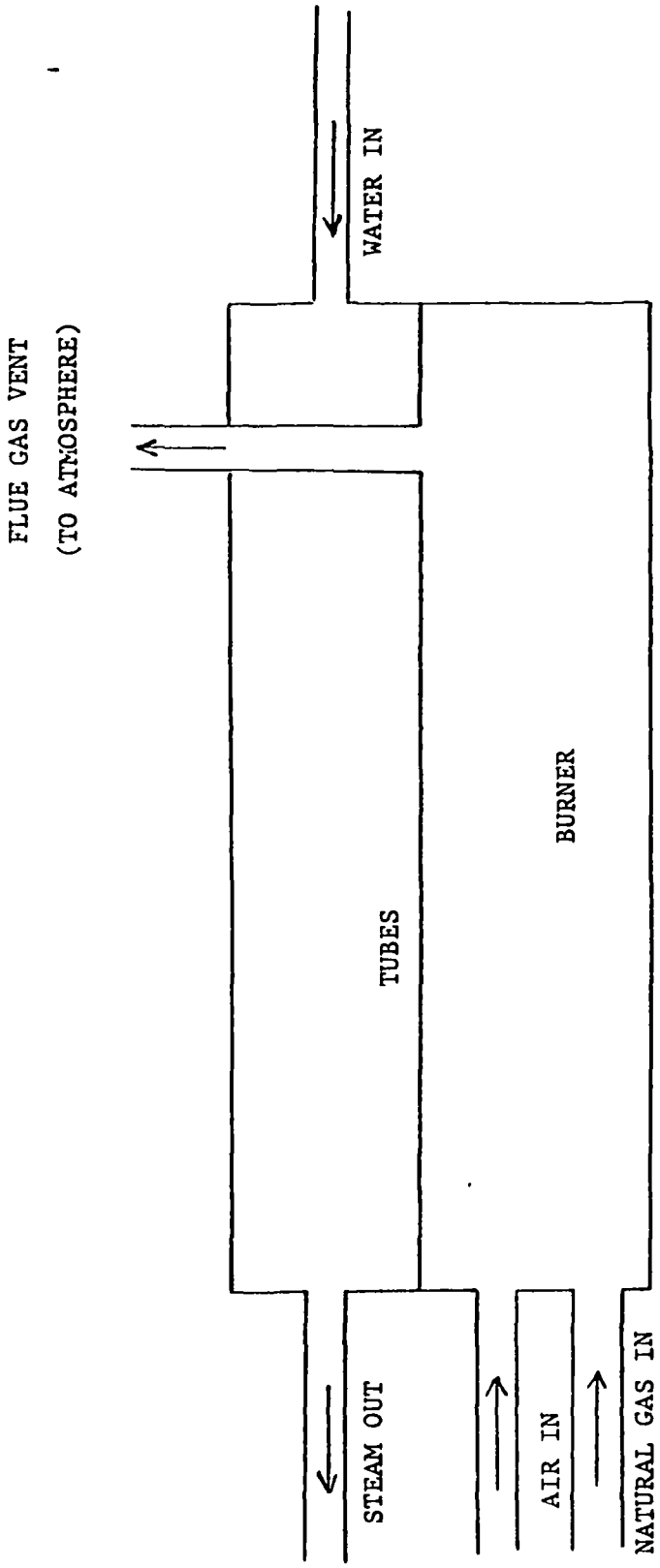
BOIL-B23 84 (Sept. 12, 1984)
APC 200: CONSTRUCT
OLIN CORP., MARION, ILLINOIS

PAGE 3 OF 16

0014644

PROCESS FLOW DIAGRAM

INDIRECT HEAT BOILER



FIRING RATE:

AVE. 1,054,300 BTU/HR
MAX. 3,450,000 BTU/HR

001465

EXHIBIT A

a.) DESCRIPTION OF EQUIPMENT:

The equipment to be used in the "B" Area is an indirect heat boiler that produces steam for facility processes. The equipment is described in more detail in the attached APC-240 "Data and Information" form.

b.) EQUIPMENT COMPLIANCE:

To the best of our knowledge, the equipment was in compliance with the Rules and Regulations governing the control of air pollution prior to April 14, 1972.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

this information under Illinois Revised Statutes, 1973, Chapter 111½, Section 1039. Disclosure of this information is required under that section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION FUEL COMBUSTION EMISSION SOURCE	BOIL-B23 84 (Sept. 12, 1984) APC 200: CONSTRUCT OLIN CORP., MARION, ILLINOIS

*THIS INFORMATION FORM IS TO BE COMPLETED FOR A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED FOR THE PRIMARY PURPOSE OF PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN EMISSION SOURCE THAT DOES NOT FIT THIS DESCRIPTION, INCLUDING AN EMISSION SOURCE USING DIRECT HEATING, IS EITHER A PROCESS EMISSION SOURCE OR AN INCINERATOR.

1. NAME OF OWNER: OLIN CORPORATION	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): ORDNANCE PRODUCTS
3. STREET ADDRESS OF EMISSION SOURCE: CRAB ORCHARD WILDLIFE REFUGE	4. CITY OF EMISSION SOURCE: RURAL MARION, ILLINOIS

GENERAL INFORMATION		
5. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE: SEE PAGE 4 OF 16 BOIL-B2384		
6. MANUFACTURER: YORK-SHIPLEY	7. MODEL NUMBER: H45655	8. SERIAL NUMBER: IND 141082
9. AVERAGE OPERATING TIME OF EMISSION SOURCE: 24 HRS/DAY 7 DAYS/WK 50 WKS/YR	10. MAXIMUM OPERATING TIME OF EMISSION SOURCE: 24 HRS/DAY 7 DAYS/WK 52 WKS/YR	
11. PERCENT OF ANNUAL HEAT INPUT: DEC-FEB 54% MAR-MAY 43 % JUN-AUG 1 % SEP-NOV 2 %	(1983)	

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE APPROPRIATE FUEL SECTION OR SECTIONS. IF MORE THAN ONE FUEL IS FIRED OR IF THE CAPABILITY EXISTS TO FIRE MORE THAN ONE FUEL, THE ACTUAL USAGE OF FUELS AND THE RELATIONSHIP BETWEEN FUELS, SIMULTANEOUS FIRING, ALTERNATE FIRING, RESERVE FUEL, ETC., MUST BE MADE CLEAR.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. FIRING RATES AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF HEAT PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
- AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
- AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
- AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST HEAT PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
- MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATION FOR ANY TWELVE MONTH PERIOD.
- MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
- MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

GAS FIRING

*11. ORIGIN OF GAS: ☐ PIPELINE ☐ DISTILLATE FUEL OIL GASIFICATION ☐ OTHER LIQUID FUEL GASIFICATION ☐ SOLID FUEL GASIFICATION ☐ BYPRODUCT: SPECIFY SOURCE N/A

12. ARE YOU ON AN INTERRUPTABLE GAS SUPPLY: ☐ YES ☒ NO
IF "YES", SPECIFY ALTERNATE FUEL: _____

13. ANNUAL CONSUMPTION:	* 14. HEAT CONTENT:	* 15. SULFUR CONTENT:
8,856,000 (1983) SCF	N/A BTU/SCF	N/A %BY WT.

16. AVERAGE FIRING RATE:	17. MAXIMUM FIRING RATE:
1,054,300 (1983) BTU/HR	3,450,000 BTU/HR

*IF THE GAS FIRED IS NATURAL GAS, THESE ITEMS NEED NOT BE COMPLETED.

OIL FIRING N/A

18. TYPE OF OIL:
GRADE NUMBER: ☐ 1 ☐ 2 ☐ 4 ☐ 5 ☐ 6 OTHER: SPECIFY _____

19. ANNUAL CONSUMPTION:	20. HEAT CONTENT:
GALLONS	☐ BTU/LB ☐ BTU/GAL
21. SULFUR CONTENT: %BY WT	22. ASH CONTENT: %BY WT

23. DIRECTION OF FIRING:
☐ HORIZONTAL ☐ TANGENTIAL ☐ OTHER: SPECIFY _____

24. AVERAGE FIRING RATE:	25. MAXIMUM FIRING RATE:
BTU/HR	BTU/HR

SOLID FUEL FIRING N/A

26. TYPE OF SOLID FUEL:
☐ SUB-BITUMINOUS COAL ☐ BITUMINOUS COAL ☐ ANTHRACITE COAL ☐ OTHER: SPECIFY

27. ANNUAL CONSUMPTION:	28. HEAT CONTENT AS FIRED:
TONS	BTU/LB

29. MOISTURE CONTENT AS FIRED:	30. ASH CONTENT AS FIRED:	31. SULFUR CONTENT AS FIRED:
%BY WT	%BY WT	%BY WT

32. TYPE OF FIRING:
☐ CYCLONE ☐ PULVERIZED { ☐ WET BOTTOM OR ☐ DRY BOTTOM, ☐ HORIZONTALLY OPPOSED OR ☐ OTHER: SPECIFY _____
☐ SPREADER STOKER: % REINJECTION _____ ☐ OTHER: SPECIFY _____

33. AVERAGE FIRING RATE:	34. MAXIMUM FIRING RATE:
BTU/HR	BTU/HR

SUBMIT COPIES OF THOSE PORTIONS OF COAL OR OTHER SOLID FUEL CONTRACTS WHICH SET FORTH THE SPECIFICATIONS OF THE FUEL AND THE DURATION OF THE CONTRACT. IF THE ACTUAL FUEL FIRED IS A BLEND OF SOLID FUELS, SUBMIT APPROPRIATE PORTIONS OF ALL FUEL CONTRACTS AND SET FORTH THE MANNER IN WHICH THE FUELS ARE BLENDED AND ACTUALLY FIRED. REFERENCE THIS INFORMATION TO THIS FORM.

*EMISSION INFORMATION

35. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED):

One

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE N/A		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE N/A
PARTICULATE MATTER	36a. GR/SCF	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
CARBON MONOXIDE	37a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
NITROGEN OXIDES	38a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
ORGANIC MATERIAL	39a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
SULFUR DIOXIDE	40a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE N/A		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE N/A
PARTICULATE MATTER	41a. GR/SCF	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
CARBON MONOXIDE	42a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
NITROGEN OXIDES	43a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
ORGANIC MATERIAL	44a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
SULFUR DIOXIDE	45a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.

*IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT, OR IF NATURAL GAS IS THE FUEL FIRED, ITEMS 36 THROUGH 47 NEED NOT BE COMPLETED.

**EXHAUST POINT INFORMATION

46. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

N/A

47. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

N/A

48. EXIT HEIGHT ABOVE GRADE:

20 FT.

50. EXIT DIAMETER:

12 Inches

49. GREATEST HEIGHT OF NEARBY BUILDINGS:

30 FT

51. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY:

425 FT

AVERAGE OPERATION		MAXIMUM OPERATION	
52. EXIT GAS TEMPERATURE:	(ESTIMATE) 250 °F	54. EXIT GAS TEMPERATURE:	400 °F
53. GAS FLOW RATE THROUGH EACH EXIT:	(ESTIMATE) 253 ACFM	55. GAS FLOW RATE THROUGH EACH EXIT:	(ESTIMATE) 1003 ACFM

**IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT THIS SECTION SHOULD NOT BE COMPLETED.

CERTIFICATE OF LOCAL ZONING APPROVAL

This is to certify that the construction of an indirect heat boiler facility by the Olin Corporation located in Township 9S, Range 1 E, Section 24, 3rd P.M., Williamson County, Illinois, does not violate any Williamson County siting/zoning regulations. This also certifies that the Williamson County Board of Commissioners has local siting/zoning jurisdiction over the proposed facility and that the undersigned have authority to certify on behalf of the Williamson County Board of Commissioners.

Clarence Stocks — SEPT. 14 - 1984

Clarence Stocks, Chairman of the Board — Date

William Mattingly — 9-14-84

William Mattingly
Williamson County Commissioner — Date

John Hamilton — 09-14-84

John Hamilton
Williamson County Commissioner — Date

ADDENDUM TO APC 200 - FOR CONSTRUCTION PERMITS ONLY

19.a. Certificate by Applicant(s)

P.A. 82-682 amended Section 39(c) of the Illinois Environmental Protection Act to provide in part:

> "...No permit for the development or construction of a new facility, other than a regional pollution control facility, may be granted by the Agency unless the applicant submits proof to the Agency that the applicant has secured all necessary zoning approvals from the unit of local government having zoning jurisdiction over the proposed facility." (emphasis added)

Accordingly, to demonstrate compliance with the requirements of P.A. 82-682, I hereby certify that:

(a) I/We have secured all necessary zoning approvals from the unit of local government having zoning furisdiction over the proposed facility, or (b) that said facility complies with local zoning requirements and further approval is not required, or (c) no unit of local government has zoning jurisdiction over the proposed facility.

19.b. NAME OF APPLICANT FOR PERMIT OR AUTHORIZATION TO CONSTRUCT

OLIN CORPORATION

P.O. DRAWER G	MARION	ILLINOIS	62959
STREET	CITY	STATE	ZIP

SIGNATURE Arthur Heinz, Jr.

NAME ARTHUR HEINZ, JR. ORGANIZATION OLIN CORPORATION-ORDNANCE PRODUCTS

TITLE DIRECTOR

Illinois Environmental Protection Agency • P.O. Box 19276 Springfield, IL 62794-9276
217/782-2113

OPERATING PERMIT

PERMITTEE

Olin Corporation
Attn: Arthur Heinz
Route 148 South, P.O. Box 278
Marion, IL 62959

Application No.: 89030022
Applicant's Designation: B-2-15-89
Subject: Propellant/Inhibitor Mixing
Date Issued: May 26, 1989
Location: Route 148 South, Marion, IL

I.D. No.: 199862AAB
Date Received: March 9, 1989

Expiration Date: March 8, 1994

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of a 50 gallon mixer, steam vacuum jet and a Torit dust collector (Model 19fB55) as described in the above-referenced application. This Permit is subject to standard conditions attached hereto.

Terry A. Sweitzer, P.E.
Manager, Permit Section
Division of Air Pollution Control

TAS:MJP:jmm/0239K/13

cc: Region 3

RECEIVED
JUN 1 3 1989
J. SCHNEIDERMAN
001506

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD ILLINOIS 62706

STANDARD CONDITIONS FOR OPERATING PERMITS

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special permit condition(s).

1. The issuance of this permit does not release the permittee from compliance with state and federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or with applicable local laws, ordinances and regulations.

2. The Agency has issued this permit based upon the information submitted by the permittee in the permit application. Any misinformation, false statement or mispresentation in the application shall be grounds for revocation under 35 Ill. Adm. Code 201.207.

3. a. The permittee shall not authorize, cause, direct or allow any modification, as defined in 35 Ill. Adm. Code 201.102, of equipment, operations or practices which are reflected in the permit application as submitted unless a new application or request for revision of the existing permit is filed with the Agency and unless a new permit or revision of the existing permit(s) is issued for such modification.

   b. This permit only covers emission sources and control equipment while physically present at the indicated plant location(s). Unless the permit specifically provides for equipment relocation, this permit is void for an item of equipment on the day it is removed from the permitted location(s) or if all equipment is removed, notwithstanding the expiration date specified on the permit.

4. The permittee shall allow any duly authorized agent of the Agency, upon the presentation of credentials, at reasonable times:

   a. to enter the permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,

   b. to have access to and to copy any records required to be kept under the terms and conditions of this permit,

   c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,

   d. to obtain and remove samples of any discharge or emission of pollutants, and

   e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring or recording any activity, discharge or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are located,

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the facilities,

001507

c. does not take into consideration or attest to the structural stability of any unit or part of the project, and

d. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. The facilities covered by this permit shall be operated in such a manner that the disposal of air contaminants collected by the equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

7. The permittee shall maintain all equipment covered under this permit in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

8. The permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment. This record shall be made available to any agent of the Environmental Protection Agency at any time during normal working hours and/or operating hours. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9. No person shall cause or allow continued operation during malfunction, breakdown or startup of any emission source or related air pollution control equipment if such operation would cause a violation of an applicable emission standard or permit limitation. Should a malfunction, breakdown or startup occur which results in emissions in excess of any applicable standard or permit limitation, the permittee shall:

   a. immediately report the incident to the Agency's Regional Field Operations Section Office by telephone, telegraph, or other method as constitutes the fastest available alternative, and shall comply with all reasonable directives of the Agency with respect to the incident;

   b. maintain the following records for a period of no less than two (2) years:

      i. date and duration of malfunction, breakdown or startup,

      ii. full and detailed explanation of the cause,

      iii. contaminants emitted and an estimate of quantity of emissions,

      iv. measures taken to minimize the amount of emissions during the malfunction, breakdown or startup, and

      v. measures taken to reduce future occurrences and frequency of incidents.

10. If the permit application contains a compliance program and project completion schedule, the permittee shall submit a project completion status report within thirty (30) days of any date specified in the compliance program and project completion schedule or at six month intervals, whichever is more frequent.

11. Beginning one year from the date of this permit the permittee shall submit an "Annual Emission Report," form APC-208, as required by 35 Ill. Adm. Code 201.302. (Note: If the permittee has other operating permits for this facility, the "Annual Emission Report" for all such permits may be included in a single annual submission.)

Olin
ORDNANCE

MARION OPERATIONS

1 March 1989

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62794-9276

ATTENTION: Mr. Terry Sweitzer, P.E.
Manager, Permits Section

REFERENCE: Olin Corporation ID No. 199862AAB
B-2-15-89 Propellant and Inhibitor Mixing
Request for Permit Renewal

Dear Mr. Sweitzer:

Enclosed please find an operating permit renewal application designated as "B-2-15-89". This equipment is currently permitted under application number 75010035 which expires 4-20-89. Olin Corporation is submitting a separate application for this equipment and requesting a new application number for ease of recordkeeping.

An original and three (3) copies are provided.

If further informatio or clarification is needed, please contact the undersigned at (618) 985-8211.

Very truly yours,

Arthur Heinz, Jr.
Director

cc
JMS:AHJ/cy

Enclosures

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

APPLICATION FOR A PERMIT (A)

☒ CONSTRUCT ☒ OPERATE

NAME OF EQUIPMENT TO BE CONSTRUCTED OR OPERATED: PROPELLANT/INHIBITOR MIXING (B)

FOR AGENCY USE ONLY

I. D. NO. _____

PERMIT NO. _____

DATE _____

1a. NAME OF OWNER:		2a. NAME OF OPERATOR:	
OLIN CORPORATION		OLIN CORPORATION	
1b. STREET ADDRESS OF OWNER:		2b. STREET ADDRESS OF OPERATOR:	
ROUTE 148 SOUTH, P.O. BOX 278		ROUTE 148 SOUTH, P.O. Box 278	
1c. CITY OF OWNER:		2c. CITY OF OPERATOR:	
MARION		MARION	
1d. STATE OF OWNER: ILLINOIS	1e. ZIP CODE: 62959	2d. STATE OF OPERATOR: ILLINOIS	2e. ZIP CODE: 62959

3a. NAME OF CORPORATE DIVISION OR PLANT:		3b. STREET ADDRESS OF EMISSION SOURCE:		
MARION OPERATIONS		CRAB ORCHARD WILDLIFE REFUGE		
3c. CITY OF EMISSION SOURCE: (RURAL) MARION	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	3e. TOWNSHIP: N/A	3f. COUNTY: WILLIAMSON	3g. ZIP CODE: 62959

4. ALL CORRESPONDENCE TO: (TITLE AND/OR NAME OF INDIVIDUAL)	5. TELEPHONE NUMBER FOR AGENCY TO CALL:
ARTHUR HEINZ, JR., DIRECTOR	(618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) ☒ OWNER: ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR DESIGNATION FOR THIS APPLICATION: (C) B - 2 - 1 5 - 8 9

8. THE UNDERSIGNED HEREBY MAKES APPLICATION FOR A PERMIT AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. BY AFFIXING HIS SIGNATURE HERETO HE FURTHER CERTIFIES THAT HE IS AUTHORIZED TO EXECUTE THIS APPLICATION.

AUTHORIZED SIGNATURE(S): (D)

BY [signature] SIGNATURE 3/2/89 DATE

ARTHUR HEINZ, JR.
TYPED OR PRINTED NAME OF SIGNER

DIRECTOR
TITLE OF SIGNER

BY _____ SIGNATURE _____ DATE

TYPED OR PRINTED NAME OF SIGNER

TITLE OF SIGNER

(A) THIS FORM IS TO PROVIDE THE AGENCY WITH GENERAL INFORMATION ABOUT THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS FORM MAY ONLY BE USED TO REQUEST ONE TYPE OF PERMIT - CONSTRUCTION OR OPERATION - AND NOT BOTH.

(B) ENTER THE GENERIC NAME OF THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS NAME WILL APPEAR ON THE PERMIT WHICH MAY BE ISSUED PURSUANT TO THIS APPLICATION. THIS FORM MUST BE ACCOMPANIED BY OTHER APPLICABLE FORMS AND INFORMATION.

(C) PROVIDE A DESIGNATION IN ITEM 7 ABOVE WHICH YOU WOULD LIKE THE AGENCY TO USE FOR IDENTIFICATION OF YOUR EQUIPMENT. YOUR DESIGNATION WILL BE REFERENCED IN CORRESPONDENCE FROM THIS AGENCY RELATIVE TO THIS APPLICATION. YOUR DESIGNATION MUST NOT EXCEED TEN (10) CHARACTERS.

(D) THIS APPLICATION MUST BE SIGNED IN ACCORDANCE WITH PCB REGS., CHAPTER 2, PART 1, RULE 103(a)(4) OR 103(b)(5) WHICH STATES: "ALL APPLICATIONS AND SUPPLEMENTS THERETO SHALL BE SIGNED BY THE OWNER AND OPERATOR OF THE EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT, OR THEIR AUTHORIZED AGENT, AND SHALL BE ACCOMPANIED BY EVIDENCE OF AUTHORITY TO SIGN THE APPLICATION."

IF THE OWNER OR OPERATOR IS A CORPORATION, SUCH CORPORATION MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF THE CORPORATION'S BOARD OF DIRECTORS AUTHORIZING THE PERSONS SIGNING THIS APPLICATION TO CAUSE OR ALLOW THE CONSTRUCTION OR OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

9mb ccl

☐ YES ☐ NO SEE PAGE 4 OF 25

IF A PLOT PLAN MAP HAS PREVIOUSLY BEEN SUBMITTED, SPECIFY

AGENCY I.D. NUMBER _____ APPLICATION NUMBER _____

IS THE APPROXIMATE SIZE OF APPLICANT'S PREMISES LESS THAN 1 ACRE?

☐ YES ☒ NO SPECIFY 200 ACRES

10. DOES THIS APPLICATION CONTAIN A PROCESS FLOW DIAGRAM(S) THAT ACCURATELY AND CLEARLY REPRESENTS CURRENT PRACTICE.

☒ YES ☐ NO

SEE PAGE 11 OF 25

11a. WAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, OWNED OR CONTRACTED FOR, BY THE APPLICANT PRIOR TO APRIL 14, 1972:

☐ YES ☒ NO

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT A, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT WAS IN COMPLIANCE WITH THE RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION PRIOR TO APRIL 14, 1972.

11b. HAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, NOT PREVIOUSLY RECEIVED AN OPERATING PERMIT:

☒ YES ☐ NO SEE PAGE 3 OF 25

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT B, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT
(i) IS ORIGINAL OR ADDITIONAL EQUIPMENT
(ii) REPLACES EXISTING EQUIPMENT, OR
(iii) MODIFIES EXISTING EQUIPMENT
(c) PROVIDES THE ANTICIPATED OR ACTUAL DATES OF THE COMMENCEMENT OF CONSTRUCTION AND THE START-UP OF THE EQUIPMENT

12. IF THIS APPLICATION INCORPORATES BY REFERENCE A PREVIOUSLY GRANTED PERMIT(S), HAS FORM APC-210, "DATA AND INFORMATION--INCORPORATION BY REFERENCE" BEEN COMPLETED.

☐ YES ☒ NO

APPLICATION FOR OPERATING PERMIT ONLY

13. DOES THE STARTUP OF AN EMISSION SOURCE COVERED BY THIS APPLICATION PRODUCE AIR CONTAMINANT EMISSION IN EXCESS OF APPLICABLE STANDARDS:

☐ YES ☒ NO

IF "YES," HAS FORM APC-203, "OPERATION DURING STARTUP" BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

14. DOES THIS APPLICATION REQUEST PERMISSION TO OPERATE AN EMISSION SOURCE DURING MALFUNCTIONS OR BREAKDOWNS:

☐ YES ☒ NO

IF "YES," HAS FORM APC-204, "OPERATION DURING MALFUNCTION AND BREAKDOWN" BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

15. IS AN EMISSION SOURCE COVERED BY THIS APPLICATION SUBJECT TO A FUTURE COMPLIANCE DATE:

☐ YES ☒ NO

IF "YES," HAS FORM APC-202, "COMPLIANCE PROGRAM & PROJECT COMPLETION SCHEDULE," BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

16. DOES THE FACILITY COVERED BY THIS APPLICATION REQUIRE AN EPISODE ACTION PLAN (REFER TO GUIDELINES FOR EPISODE ACTION PLANS):

☐ YES ☒ NO

17. WAS THIS OPERATION THE SUBJECT OF A VARIANCE PETITION FILED WITH THE ILLINOIS POLLUTION CONTROL BOARD ON OR BEFORE JUNE 13, 1972:

☐ YES ☒ NO

IF "YES," CITE: PCB NUMBER(S) _____, DATE OF BOARD ORDER _____

WAS CONSTRUCTION OR MODIFICATION OF EQUIPMENT, SUFFICIENT TO ACHIEVE COMPLIANCE WITH THE "RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION" EFFECTIVE PRIOR TO APRIL 14, 1972, COMMENCED PRIOR TO APRIL 14, 1972.

☐ YES ☐ NO

IF "YES," EXPLAIN IN DETAIL, AND IDENTIFY EXPLANATION AS EXHIBIT D.

18. LIST AND IDENTIFY ALL FORMS, EXHIBITS, AND OTHER INFORMATION SUBMITTED AS PART OF THIS APPLICATION. INCLUDE THE PAGE NUMBERS ON EACH ITEM (ATTACH ADDITIONAL SHEETS IF NECESSARY):

APC 200	1-2
EXHIBIT B	3
PLOT PLAN/MAP	4
APC 200 - STEAM VACUUM JETS (S1)	5-7
APC 220 - HOODS (S2, S3)	8-10
PROCESS FLOW DIAGRAM	11
MATERIAL CONSTITUENTS	12
APC 260	13-18
MANUFACTURER'S INFORMATION	19
APC 103	20-21
DELEGATION OF AUTHORITY	22-25

TOTAL NUMBER OF PAGES 25

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EXHIBIT B

a) DESCRIPTION OF EQUIPMENT

Olin maintains a production facility southwest of Marion, Illinois, in a rural area. This facility, Olin designates as the "B" and "D" areas, generally is used for the manufacture of military gas generator propulsion systems and blending of various explosive mixes for these systems.

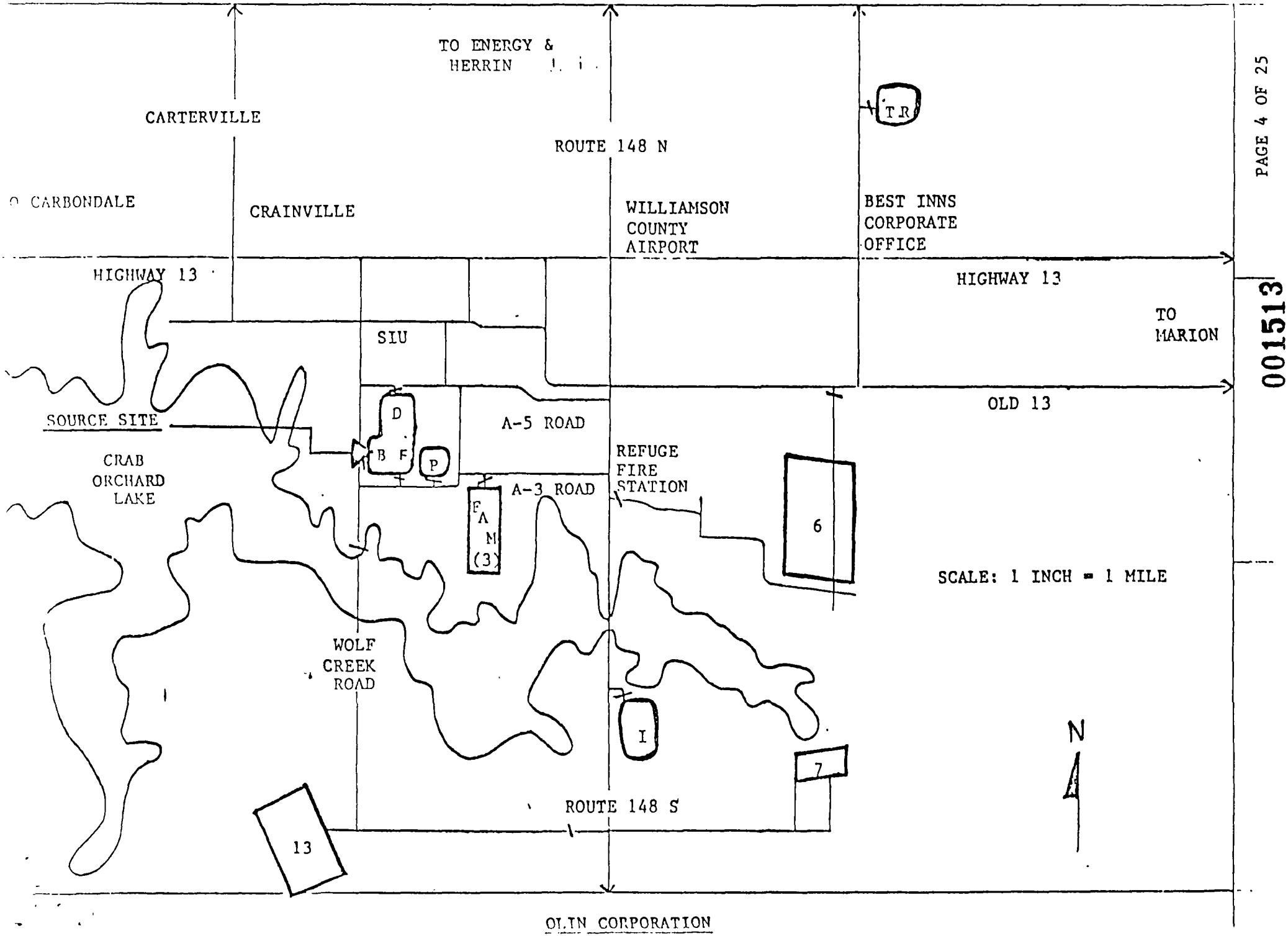
The manufacture of gas generators requires the mixing of raw materials to process ammonium nitrate based solid propellants and also inhibitor mixes. The air emissions from this mixing process are vented through two hoods and drawn through air pollution control equipment and exhausted to the outside atmosphere. The equipment is a Torit dust collector Model 19FB55. As air is drawn through the collector, most waste dust settles in a 55 gallon drum associated with the dust collector system. Smaller contaminants are trapped by the fabric filter bag. Associated with the mixing process is a steam vacuum jet system which exhausts through a 1 inch pipe extending three (3) feet above the roof of the explosive building. The vacuum steam jet system is necessary in order to draw a vacuum on this mixing process.

b) EQUIPMENT STATUS:

All of the equipment is available at the plant.

c) ANTICIPATED DATES OF COMMENCEMENT OF CONSTRUCTION AND START UP OF THE EQUIPMENT

This equipment is already permitted and in operation per application number 75010035 which expires 4-20-89. Olin Corporation is submitting a separate application for this equipment and requesting a new application number for ease of recordkeeping.


TO ENERGY &
HERRIN
CARTERVILLE
ROUTE 148 N
T R
CARBONDALE
CRAINVILLE
WILLIAMSON
COUNTY
AIRPORT
BEST INNS
CORPORATE
OFFICE
HIGHWAY 13
HIGHWAY 13
TO
MARION
SIU
OLD 13
SOURCE SITE
D
B F
P
A-5 ROAD
REFUGE
FIRE
STATION
CRAB
ORCHARD
LAKE
A-3 ROAD
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6
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WOLF
CREEK
ROAD
I
7
N
ROUTE 148 S
13
OLIN CORPORATION

001513

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

Public Law 96-511, Paperwork Reduction Act of 1980, Chapter 44 U.S.C. Section 3506 requires that you be informed of the following: Failure to provide all requested information may result in delay or denial of your application. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION PROCESS EMISSION SOURCE SUBSOURCE S1 - STEAM JETS EXHAUST	B-2-15-89 (3-1-89) APC 200: CONSTRUCT/OPERATE OLIN CORP., MARION, ILLINOIS

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER OLIN CORPORATION	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) MARION OPERATIONS
3. STREET ADDRESS OF EMISSION SOURCE CRAB ORCHARD WILDLIFE REFUGE	4. CITY OF EMISSION SOURCE. RURAL MARION

GENERAL INFORMATION		
5. NAME OF PROCESS PROPELLANT AND INHIBITOR MIXING	6. NAME OF EMISSION SOURCE EQUIPMENT 50 GALLON MIXER	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER BAKER-PERKINS	8. MODEL NUMBER. N/A	9. SERIAL NUMBER. N/A
10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE SEE PAGE 11 OF 25		
11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION) 200 GALLON MIXER APPLICATION NO. 85010047		
12. AVERAGE OPERATING TIME OF EMISSION SOURCE SUBSOURCE 0.8 HRS DAY 4 DAYS/WK 45 WKS/YR	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE SUBSOURCE 0.9 HRS/DAY 4 DAYS/WK 48 WKS/YR	
14. PERCENT OF ANNUAL THROUGHPUT: DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %		

INSTRUCTIONS
1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION. 2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED. 3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT. 4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES. 5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE SPECIFICALLY. AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD. AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME. AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES. MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD. MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION. MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. AN PROPELLANT	b. 89.01 LB/HR	c. 203.41 LB/HR
21a. INHIBITOR MIX	b. 34.02 LB/HR	c. 303.42 LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. AN PROPELLANT	b. 85.7 LB/HR	c. 200 LB/HR
31a. INHIBITOR MIX	b. 30.7 LB/HR	c. 300 LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. WASTE THROUGH STEAM JETS	b. 6.63 LB/HR	c. 6.83 LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b. ———	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

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*EMISSION INFORMATION

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED): N/A

AVERAGE OPERATION (TOTAL FOR SUBSOURCE S1)

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. 0.03 LB/HR	c. THEORETICAL CALCULATIONS
CARBON MONOXIDE	53a. PPM (VOL)	b. N/A LB/HR	c. N/A
NITROGEN OXIDES	54a. PPM (VOL)	b. N/A LB/HR	c. N/A
ORGANIC MATERIAL	55a. PPM (VOL)	b. 6.6 LB/HR	c. CALCULATIONS AND ENGINEERING ESTIMATE
SULFUR DIOXIDE	56a. PPM (VOL)	b. N/A LB/HR	c. N/A
**OTHER (SPECIFY)	57a. PPM (VOL)	b. N/A LB/HR	c. N/A

MAXIMUM OPERATION (TOTAL FOR SUBSOURCE S1)

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. 0.03 LB/HR	c. THEORETICAL CALCULATIONS
CARBON MONOXIDE	59a. PPM (VOL)	b. N/A LB/HR	c. N/A
NITROGEN OXIDES	60a. PPM (VOL)	b. N/A LB/HR	c. N/A
ORGANIC MATERIAL	61a. PPM (VOL)	b. 6.8 LB/HR	c. CALCULATIONS AND ENGINEERING ESTIMATE
SULFUR DIOXIDE	62a. PPM (VOL)	b. N/A LB/HR	c. N/A
**OTHER (SPECIFY)	63a. PPM (VOL)	b. N/A LB/HR	c. N/A

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
***"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT: SEE PAGE 11 OF 25

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.): VERTICAL; 1 INCH PIPE EXTENDING 3 FT. ABOVE ROOF OF BUILDING B-2-15

66. EXIT HEIGHT ABOVE GRADE: 17FT	67. EXIT DIAMETER: 1 INCH
68. GREATEST HEIGHT OF NEARBY BUILDINGS: 17 FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: 500 FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: 212 °F	72. EXIT GAS TEMPERATURE: 212 °F
71. GAS FLOW RATE THROUGH EACH EXIT: 16.7 ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: 16.7 ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This [illegible] is authorized by [illegible] Revised Statutes 1979 Chapter 111 1/2 Section 1009. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION PROCESS EMISSION SOURCE SUBSOURCES S2, S3 - HOODS	B-2-15-89 (3-1-89) APC 200: CONSTRUCT/OPERATE OLIN CORP., MARION, ILLINOIS

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER OLIN CORPORATION	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) MARION OPERATIONS
3. STREET ADDRESS OF EMISSION SOURCE CRAB ORCHARD WILDLIFE REFUGE	4. CITY OF EMISSION SOURCE: (RURAL) MARION

GENERAL INFORMATION		
5. NAME OF PROCESS. PROPELLANT AND INHIBITOR MIXING	6. NAME OF EMISSION SOURCE EQUIPMENT: 50 GALLON MIXER	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER BAKER-PERKINS	8. MODEL NUMBER. N/A	9. SERIAL NUMBER. N/A
10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE SEE PAGE 11 OF 25		
11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION) N/A		
12. AVERAGE OPERATING TIME OF EMISSION SOURCE SUBSOURCES 3 HRS/DAY 4 DAYS/WK 45 WKS/YR	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE SUBSOURCES 12 HRS/DAY 7 DAYS/WK 48 WKS/YR	
14. PERCENT OF ANNUAL THROUGHPUT: DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %		

INSTRUCTIONS
1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION. 2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED. 3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT. 4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES. 5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD. AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME. AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES. MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD. MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION. MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. AN PROPELLANT	b. 86.123 LB/HR	c. 200.4454 LB/HR
21a. INHIBITOR MIX	b. 31.124 LB/HR	c. 300.4454 LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. AN PROPELLANT	b. 85.7 LB/HR	c. 200 LB/HR
31a. INHIBITOR MIX	b. 30.7 LB/HR	c. 300 LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. AN PROPELLANT/INHIBITOR MIX	b. 0.847 LB/HR	c. 0.8908 LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A			
FUEL USED		TYPE	HEAT CONTENT
50a. NATURAL GAS	☐	b.	c. 1000 BTU/SCF
OTHER GAS	☐		BTU/SCF
OIL	☐		BTU/GAL
COAL	☐		BTU/LB
OTHER	☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR		e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

*EMISSION INFORMATION N/A

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED).

N/A

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION N/A

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

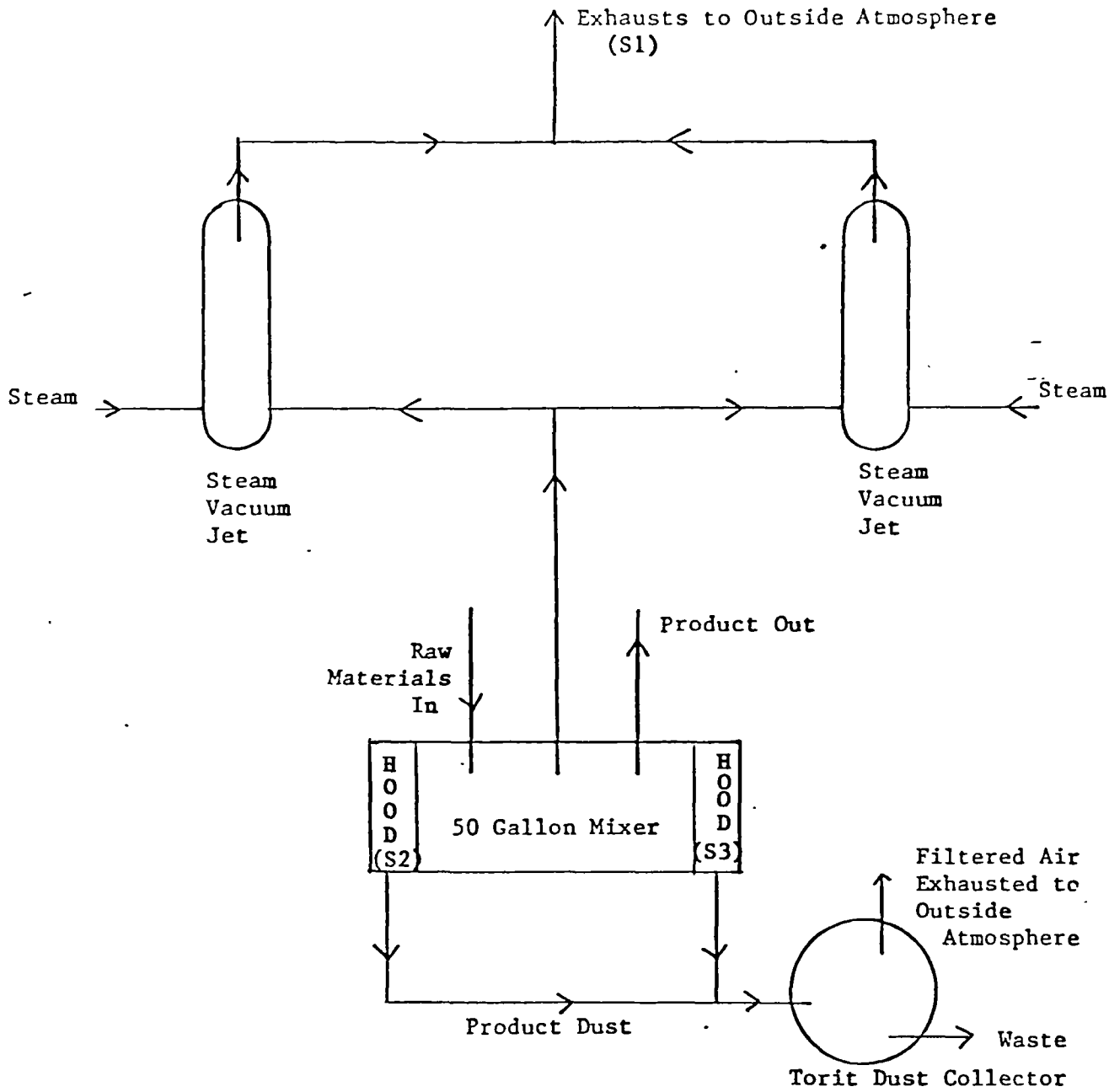
65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

66. EXIT HEIGHT ABOVE GRADE:	67. EXIT DIAMETER:
68. GREATEST HEIGHT OF NEARBY BUILDINGS: FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: °F	72. EXIT GAS TEMPERATURE: °F
71. GAS FLOW RATE THROUGH EACH EXIT: ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

PROCESS FLOW DIAGRAM: PROPELLANT/INHIBITOR MIXING

NOTE: 3 Subsources: S1, S2, S3
1 Air Pollution Control Device for S2, S3:
Torit Dust Collector



	Ave.	Max.
Inlet/Exit Gas Condition	70 F	75 F
Inlet/Exit Gas Flow Rate	860 SCFM	1200 SCFM
Filter Unit Efficiency	98%	

MATERIAL CONSTITUENTS

Propellant

Constituent	Range %
Ammonium Nitrate	58.55 - 79.5
Polybutadiene Acrylic Acid	0 - 14.5
Guanidine Nitrate	0 - 5.25
Ammonium Oxalate	0 - 5.75
Sodium Barbiturate	0.9 - 2.2
Carbon Black	1.9 - 3.1
Acetyl Triethyl Citrate	0 - 12.1
2,4-Dinitrophenoxyethanol (DNPE)	0 - 10.7
Toluene - 2,4-Diamine	0 - 1.0
N-Phenylmorpholine	0 - 1.0
Cellulose Acetate	0 - 11.6
Ammonium Ferri-Ferro-Cyanide (Milori Blue)	0 - 1.0
Melamine	0 - 6.0
Hexane (Mixing Agent)	0 - 12 gallons

Inhibitor

Ammonium Oxalate	68.0 - 89.0
Polybutadiene Acrylic Acid	0 - 23.0
2,4-Dinitrophenoxyethanol (DNPE)	0 - 11.3
Cellulose Acetate	0 - 10.2

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

[illegible] is required under that section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION AIR POLLUTION CONTROL EQUIPMENT	B-2-15-89 (3-1-89) APC 200: CONSTRUCT/OPERATE OLIN CORP., MARION, ILLINOIS

*THIS INFORMATION FORM IS FOR AN INDIVIDUAL UNIT OF AIR POLLUTION CONTROL EQUIPMENT OR AN AIR POLLUTION CONTROL SYSTEM.

1. NAME OF OWNER: OLIN CORPORATION	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): MARION OPERATIONS
3. STREET ADDRESS OF CONTROL EQUIPMENT: CRAB ORCHARD WILDLIFE REFUGE	4. CITY OF CONTROL EQUIPMENT: (RURAL) MARION
5. NAME OF CONTROL EQUIPMENT OR CONTROL SYSTEM: TORIT DUST COLLECTOR MODEL NO. 19FB55	

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION.
2. COMPLETE THE APPROPRIATE SECTION FOR THE UNIT OF CONTROL EQUIPMENT, OR THE APPROPRIATE SECTIONS FOR THE CONTROL SYSTEM. BE CERTAIN THAT THE ARRANGEMENT OF VARIOUS UNITS IN A CONTROL SYSTEM IS MADE CLEAR IN THE PROCESS FLOW DIAGRAM.
3. COMPLETE PAGE 6 OF THIS FORM, EMISSION INFORMATION AND EXHAUST POINT INFORMATION.
4. EFFICIENCY VALUES SHOULD BE SUPPORTED WITH A DETAILED EXPLANATION OF THE METHOD OF CALCULATION, THE MANNER OF ESTIMATION, OR THE SOURCE OF INFORMATION. REFERENCE TO THIS FORM ANY RELEVANT INFORMATION OR EXPLANATION INCLUDED IN THIS PERMIT APPLICATION.
5. EFFICIENCY VALUES AND CERTAIN OTHER ITEMS OF INFORMATION ARE TO BE GIVEN FOR AVERAGE AND MAXIMUM OPERATION OF THE SOURCE EQUIPMENT. FOR EXAMPLE, "MAXIMUM EFFICIENCY" IS THE EFFICIENCY OF THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT MAXIMUM OPERATION, AND "AVERAGE FLOW RATE" IS THE FLOW RATE INTO THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT AVERAGE OPERATION.
6. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS", APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
MAXIMUM OPERATION - THE GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

ADSORPTION UNIT N/A	
1. FLOW DIAGRAM DESIGNATION(S) OF ADSORPTION UNIT:	
2. MANUFACTURER:	3. MODEL NAME AND NUMBER:
4. ADSORBENT: ☐ ACTIVATED CHARCOAL: TYPE _____ ☐ OTHER. SPECIFY _____	
5. ADSORBATE(S):	
6. NUMBER OF BEDS PER UNIT:	7. WEIGHT OF ADSORBENT PER BED: LB
8. DIMENSIONS OF BED: THICKNESS _____ IN, SURFACE AREA _____ SQUARE IN	
9. INLET GAS TEMPERATURE: °F	10. PRESSURE DROP ACROSS UNIT: INCH H_2O GAUGE
11. TYPE OF REGENERATION: ☐ REPLACEMENT ☐ STEAM ☐ OTHER: SPECIFY	
12. METHOD OF REGENERATION: ☐ ALTERNATE USE OF _____ ENTIRE UNITS ☐ ALTERNATE USE OF _____ BEDS IN A SINGLE UNIT ☐ SOURCE SHUT DOWN ☐ OTHER: DESCRIBE	
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
13. TIME ON LINE BEFORE REGENERATION: MIN/BED	15. TIME ON LINE BEFORE REGENERATION: MIN/BED
14. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4): %	16. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4): %

AFTERBURNER N/A	
1. FLOW DIAGRAM DESIGNATION(S) OF AFTERBURNER:	
2. MANUFACTURER:	3. MODEL NAME AND NUMBER:
4. COMBUSTION CHAMBER DIMENSIONS: LENGTH _____ IN, CROSS-SECTIONAL AREA _____ SQUARE IN.	
5. INLET GAS TEMPERATURE: °F	7. FUEL: ☐ GAS ☐ OIL. SULFUR _____ WT%
6. OPERATING TEMPERATURE OF COMBUSTION CHAMBER: °F	8. BURNERS PER AFTERBURNER: @ BTU/HR EACH
9. CATALYST USED: ☐ NO ☐ YES: DESCRIBE CATALYST _____	
10. HEAT EXCHANGER USED: ☐ NO ☐ YES: DESCRIBE HEAT EXCHANGER _____	
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
11. GAS FLOW RATE: SCFM	13. GAS FLOW RATE: SCFM
12. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4): %	14. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4): %

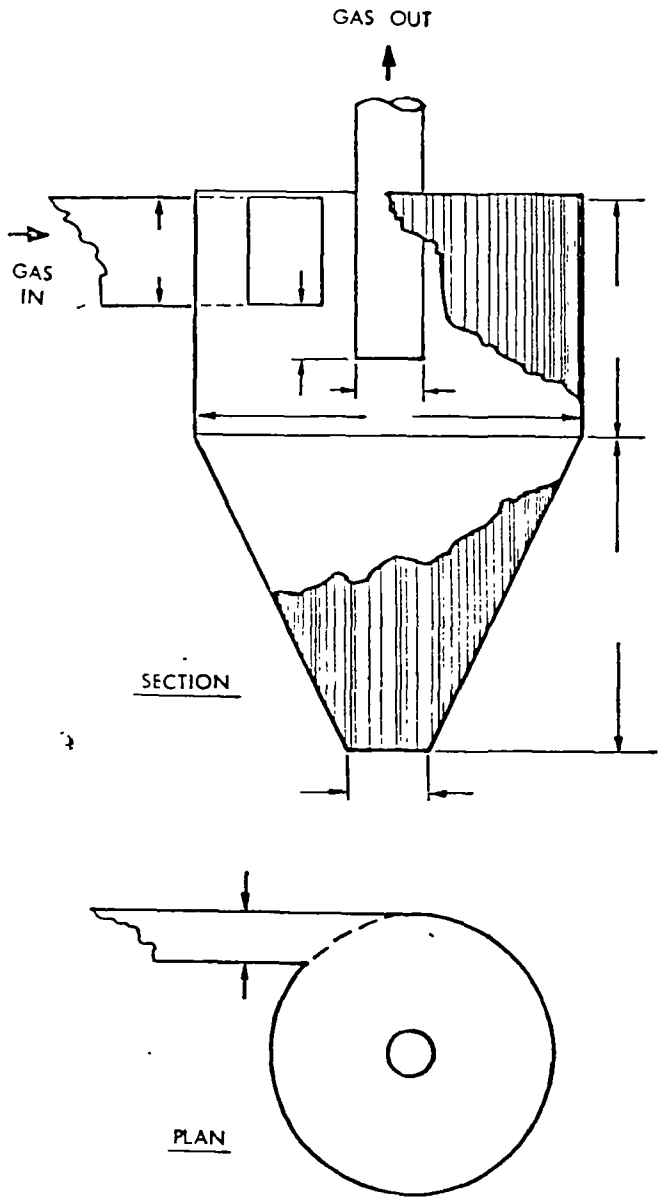
CYCLONE

1. FLOW DIAGRAM DESIGNATION(S) OF CYCLONE.
   SEE PAGE 11 OF 25

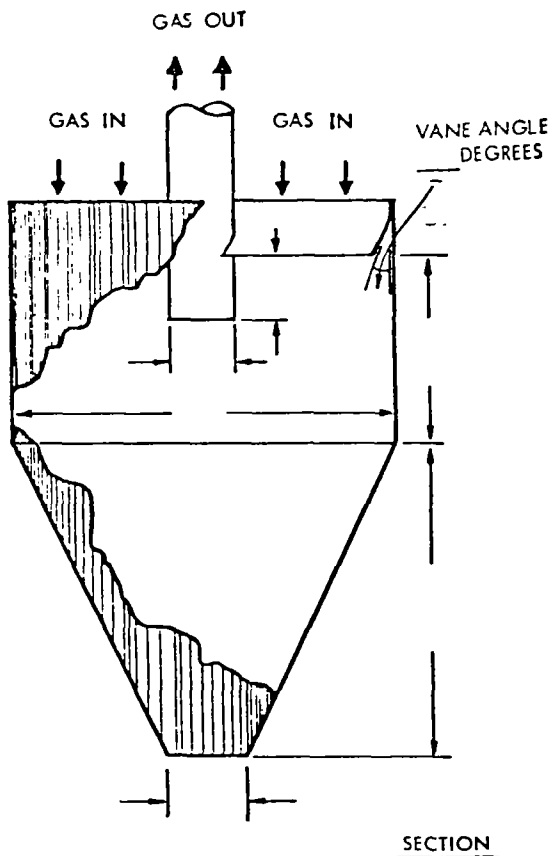
2. MANUFACTURER:	3. MODEL:
TORIT CORPORATION	19FB55
4. TYPE OF CYCLONE: ☒ SIMPLE ☐ MULTIPLE	5. NUMBER OF CYCLONES IN EACH MULTIPLE CYCLONE: ONE (1)

6. DIMENSION THE APPROPRIATE SKETCH (IN INCHES) OR PROVIDE A DRAWING WITH EQUIVALENT INFORMATION:
   SEE PAGE 19 OF 25

TANGENTIAL INLET CYCLONE



AXIAL INLET CYCLONE
(INDIVIDUAL CYCLONE OF MULTIPLE CYCLONE)



NOT TO SCALE

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
7. GAS FLOW RATE: 860 SCFM	9. GAS FLOW RATE: 1200 SCFM
8. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): MANUFACTURER'S ESTIMATE 98 %	10. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): MANUFACTURER'S ESTIMATE 98%

CONDENSER N/A

1. FLOW DIAGRAM DESIGNATION(S) OF CONDENSER

2. MANUFACTURER	3. MODEL NAME AND NUMBER	4. HEAT EXCHANGE AREA FT^2

AVERAGE OPERATION OF SOURCE		MAXIMUM OPERATION OF SOURCE	
5. COOLANT FLOW RATE PER CONDENSER: WATER ____ GPM AIR ____ SCFM OTHER: TYPE ____, FLOW RATE ____		10. COOLANT FLOW RATE PER CONDENSER: WATER ____ GPM AIR ____ SCFM OTHER: TYPE ____, FLOW RATE ____	
6. GAS FLOW RATE: SCFM		11. GAS FLOW RATE: SCFM	
7. COOLANT TEMPERATURE: INLET ___ °F OUTLET ___ °F	8. GAS TEMPERATURE: INLET ___ °F OUTLET ___ °F	12. COOLANT TEMPERATURE: INLET ___ °F OUTLET ___ °F	13. GAS TEMPERATURE: INLET ___ °F OUTLET ___ °F
9. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4): %		14. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4): %	

*ELECTRICAL PRECIPITATOR N/A

1. FLOW DIAGRAM DESIGNATION OF ELECTRICAL PRECIPITATOR:

2. MANUFACTURER:	3. MODEL NAME AND NUMBER:

4. COLLECTING ELECTRODE AREA PER CONTROL DEVICE: FT^2

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
5. GAS FLOW RATE: SCFM	7. GAS FLOW RATE: SCFM
6. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4): %	8. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4): %

SUBMIT THE MANUFACTURER'S SPECIFICATIONS FOR THE ELECTRICAL PRECIPITATOR. REFERENCE THE INFORMATION TO THIS FORM.

*ELECTRICAL PRECIPITATORS VARY GREATLY IN THEIR DESIGN AND IN THEIR COMPLEXITY. THE ITEMS IN THIS SECTION PROVIDE A MINIMUM AMOUNT OF INFORMATION. THE APPLICANT MUST, HOWEVER, SUBMIT WITH THIS APPLICATION THE MANUFACTURER'S SPECIFICATIONS, INCLUDING ANY DRAWINGS, TECHNICAL DOCUMENTS, ETC. IF THE INFORMATION PROVIDED BY THE MANUFACTURER'S SPECIFICATIONS IS INSUFFICIENT FOR FULL AND ACCURATE ANALYSIS, THE AGENCY WILL REQUEST SPECIFIC ADDITIONAL INFORMATION.

FILTER UNIT

1. FLOW DIAGRAM DESIGNATION(S) OF FILTER UNIT: SEE PAGE 11 OF 25

2. MANUFACTURER: TORIT CORPORATION	3. MODEL NAME AND NUMBER: TORIT MODEL 19FB55
4. FILTERING MATERIAL: FELTED DACRON BAG	5. FILTERING AREA: 25 SQUARE FEET

6. CLEANING METHOD:
☐ SHAKER ☐ REVERSE AIR ☐ PULSE AIR ☐ PULSE JET ☒ OTHER: SPECIFY BAG REPLACEMENT

7. GAS COOLING METHOD: ☐ DUCTWORK: LENGTH ____ FT., DIAM ____ IN.
☐ BLEED-IN AIR ☐ WATER SPRAY ☐ OTHER: SPECIFY N/A

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. GAS FLOW RATE (FROM SOURCE): 860 SCFM	12. GAS FLOW RATE (FROM SOURCE): 1200 SCFM
9. GAS COOLING FLOW RATE: N/A BLEED-IN AIR ____ SCFM, WATER SPRAY ____ GPM	13. GAS COOLING FLOW RATE: N/A BLEED-IN AIR ____ SCFM, WATER SPRAY ____ GPM
10. INLET GAS CONDITION: TEMPERATURE 70 °F DEWPOINT 47 °F	14. INLET GAS CONDITION: TEMPERATURE 70 °F DEWPOINT 47 °F
11. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): MANUFACTURER'S ESTIMATE 98 %	15. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): MANUFACTURER'S ESTIMATE 98 %

SCRUBBER N/A

1. FLOW DIAGRAM DESIGNATION(S) OF SCRUBBER

2. MANUFACTURER.	3. MODEL NAME AND NUMBER:

4. TYPE OF SCRUBBER:

☐ HIGH ENERGY: GAS STREAM PRESSURE DROP _____ INCH H_2O

☐ PACKED: PACKING TYPE _____, PACKING SIZE _____, PACKED HEIGHT _____ IN.

☐ SPRAY: NUMBER OF NOZZLES _____, NOZZLE PRESSURE _____ PSIG

☐ OTHER: SPECIFY _____ ATTACH DESCRIPTION AND SKETCH WITH DIMENSIONS

5. TYPE OF FLOW:

☐ COCURRENT ☐ COUNTERCURRENT ☐ CROSSFLOW

6. SCRUBBER GEOMETRY:

LENGTH IN DIRECTION OF GAS FLOW _____ IN., CROSS-SECTIONAL AREA _____ SQUARE IN.

7. CHEMICAL COMPOSITION OF SCRUBBANT:

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. SCRUBBANT FLOW RATE: GPM	12. SCRUBBANT FLOW RATE: GPM
9. GAS FLOW RATE: SCFM	13. GAS FLOW RATE: SCFM
10. INLET GAS TEMPERATURE: °F	14. INLET GAS TEMPERATURE: °F
11. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____ % PARTICULATE _____ % GASEOUS	15. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____ % PARTICULATE _____ % GASEOUS

OTHER TYPE OF CONTROL EQUIPMENT N/A

1. FLOW DIAGRAM DESIGNATION(S) OF "OTHER TYPE" OF CONTROL EQUIPMENT:

2. GENERIC NAME OF "OTHER" EQUIPMENT:	3. MANUFACTURER:	4. MODEL NAME AND NUMBER:

5. DESCRIPTION AND SKETCH, WITH DIMENSIONS AND FLOW RATES, OF "OTHER" EQUIPMENT:

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
6. FLOW RATES: _____ GPM _____ SCFM	8. FLOW RATES: _____ GPM _____ SCFM
7. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4): %	9. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4) %

EMISSION INFORMATION

1. NUMBER OF IDENTICAL CONTROL UNITS OR CONTROL SYSTEMS (DESCRIBE AS REQUIRED):
N/A

AVERAGE OPERATION OF SOURCE (TOTAL FOR SUBSOURCES S2, S3)

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	2a. GR/SCF	b. 0.017 LB/HR	c. CALCULATED ESTIMATE BASED ON PAST EXPERIENCE AND 98% COLLECTOR
CARBON MONOXIDE	3a. PPM (VOL)	b. N/A LB/HR	c. EFFICIENCY
NITROGEN OXIDES	4a. PPM (VOL)	b. N/A LB/HR	c.
ORGANIC MATERIAL	5a. PPM (VOL)	b. N/A LB/HR	c.
SULFUR DIOXIDE	6a. PPM (VOL)	b. N/A LB/HR	c.
OTHER (SPECIFY)	7a. PPM (VOL)	b. N/A LB/HR	c.

MAXIMUM OPERATION OF SOURCE (TOTAL FOR SUBSOURCES S2, S3)

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	8a. GR/SCF	b. 0.0178 LB/HR	c. CALCULATED ESTIMATE BASED ON PAST EXPERIENCE AND 98% COLLECTOR
CARBON MONOXIDE	9a. PPM (VOL)	b. N/A LB/HR	c. EFFICIENCY
NITROGEN OXIDES	10a. PPM (VOL)	b. N/A LB/HR	c.
ORGANIC MATERIAL	11a. PPM (VOL)	b. N/A LB/HR	c.
SULFUR DIOXIDE	12a. PPM (VOL)	b. N/A LB/HR	c.
OTHER (SPECIFY)	13a. PPM (VOL)	b. N/A LB/HR	c.

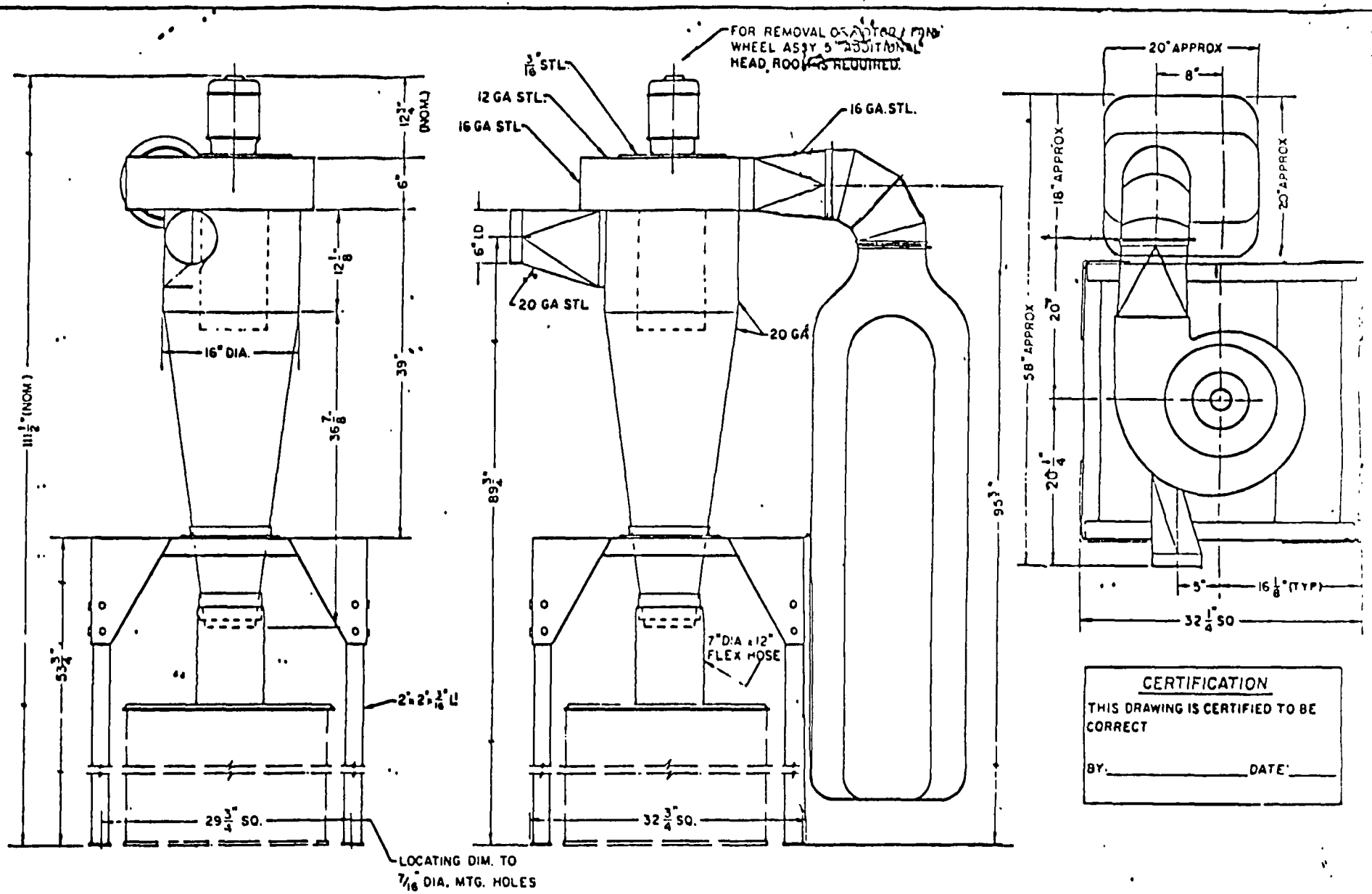
***"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

EXHAUST POINT INFORMATION

1. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:
SEE PAGE 11 OF 25

2. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):
FILTERED AIR FROM COLLECTOR EXHAUSTED TO OUTSIDE ATMOSPHERE

3. EXIT HEIGHT ABOVE GRADE: 8 FEET	4. EXIT DIAMETER: 8 INCHES
5. GREASTEST HEIGHT OF NEARBY BUILDINGS: 20 FT	6. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: 600 FT
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
7. EXIT GAS TEMPERATURE: 75 °F	9. EXIT GAS TEMPERATURE: 75 °F
8. GAS FLOW RATE THROUGH EACH EXIT: 860 ACFM	10. GAS FLOW RATE THROUGH EACH EXIT: 1200 ACFM



CERTIFICATION

THIS DRAWING IS CERTIFIED TO BE CORRECT

BY._____ DATE_____

MULTIPLE RATING TABLES		
C.F.M.	VELOCITY (F.P.M.)	EXT. S.P.
1200	6135	4.6"
1100	5600	5.4"
993	5066	6.6"
928	4739	7.5"
860	4386	7.9"

SPECIFICATIONS

1. MOTOR SHALL BE 2HP, 3600 RPM, 230-460/60/3
2. DRUM CAPACITY SHALL BE 7.5 CU FT
3. FILTER AREA SHALL BE 25.0 SQ. FT.
4. INLET: 6" I D
5. OUTLET: 8" DIA WITH FLANGED ELL FITTING FOR AFTER FILTER
6. NET WT 365#, SHIPPING WT 390#
7. FAN SIZE 13" x 3 1/2", MATL HANDLING DESIGN

NOTES

1. INLET MAY BE ROTATED AT 45° INCREMENTS IN FIELD
2. OUTLET MAY BE ROTATED AT 45° INCREMENTS IN FIELD
3. THIS DRAWING IS FOR A STANDARD 19FB-55 CYCLONE COLLECTOR ANY DEPARTURE FROM THIS DESIGN SHALL REQUIRE SPECIAL FABRICATION & INCREASE IN COST
4. THIS PRINT IS NOT CERTIFIED FOR CONSTRUCTION PURPOSES UNLESS PROPERLY SIGNED BY TORIT ENG. DEPT
5. 55 GAL DRUM IS NOT FURNISHED BY TORIT
6. HT OF MOTOR SUPPLIED OR SPECIFIED MAY VARY FROM NOMINAL HT SHOWN TORIT WILL VERIFY WHERE REQD

TORIT

THE TORIT CORPORATION ST PAUL, MINN

SPECIFICATION CONTROL DRAWING

MODEL NO. 19FB-55 CYCLONE

DRAWN. I. H. [illegible]

APP'D.

DRWG NO. 19-003

REV [illegible]

001528

APC 200: CONSTRUCT, OPERATE
IN CO-P., MARION, ILLINOIS

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1 2 Section 1039 Disclosure of this information is required under that Section Failure to do so may prevent this form from being processed and could result in your application being denied This form has been approved by the Forms Management Center

DISPOSITION OF WASTE MATERIALS (A) NAME OF EQUIPMENT OR PROCESS TO BE CONSTRUCTED OR OPERATED (B) PROPELLANT AND INHIBITOR MIXING	FOR AGENCY USE ONLY REFERENCE I.D. NO. _____ REFERENCE PERMIT NO. _____ DATE _____

1a. NAME OF OWNER: OLIN CORPORATION		2a. NAME OF OPERATOR: OLIN CORPORATION	
1b. STREET ADDRESS OF OWNER: P.O. BOX 278, ROUTE 148 SOUTH		2b. STREET ADDRESS OF OPERATOR: P.O. BOX 278, ROUTE 148 SOUTH	
1c. CITY OF OWNER: MARION		2c. CITY OF OPERATOR: MARION	
1d. STATE OF OWNER: ILLINOIS	1e. ZIP CODE: 62959	2d. STATE OF OPERATOR: ILLINOIS	2e. ZIP CODE: 62959

3a. NAME OF CORPORATE DIVISION OR PLANT: MARION OPERATIONS		3b. STREET ADDRESS OF EMISSION SOURCE: CRAB ORCHARD WILDLIFE REFUGE		
3c. CITY OF EMISSION SOURCE: (RURAL) MARION	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	3e. TOWNSHIP: N/A	3f. COUNTY: WILLIAMSON	3g. ZIP CODE: 62959

4. ALL CORRESPONDENCE TO: (NAME OF INDIVIDUAL) ARTHUR HEINZ, JR.	5. TELEPHONE NUMBER FOR AGENCY TO CALL: (618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) ☒ OWNER ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR ID NUMBER FOR THIS APPLICATION: (C) B-2-15-89

(A) THIS FORM IS TO BE COMPLETED FOR ANY STATIONARY EMISSION SOURCE THAT WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL THAT MAY BE DISPOSED OF IN A MANNER THAT MAY CAUSE OR TEND TO CAUSE POLLUTION IN ILLINOIS EITHER ALONE OR IN COMBINATION WITH MATTER FROM OTHER SOURCES OR SO AS TO VIOLATE REGULATIONS OR STANDARDS ADOPTED BY THE POLLUTION CONTROL BOARD UNDER THE ENVIRONMENTAL PROTECTION ACT.

(B) ENTER INFORMATION HERE FROM COMPARABLE BLOCK ON APC-200 - "APPLICATION FOR A PERMIT".

(C) ENTER INFORMATION IN ITEM 7 ABOVE SAME AS ITEM 7 APC-200 - "APPLICATION FOR A PERMIT".

(D) IF ADDITIONAL SPACE IS REQUIRED USE ADDITIONAL SHEETS, ATTACH AND IDENTIFY INFORMATION BY APPROPRIATE BLOCK NUMBER AS IT APPEARS ON THIS FORM.

THIS ADDENDUM WILL BE REVIEWED BY THE DIVISION OF LAND POLLUTION CONTROL AND THE OWNER WILL BE NOTIFIED WHETHER OR NOT A DETAILED APPLICATION FOR A PERMIT WILL NEED TO BE SUBMITTED. THIS FORM APC-103 - "DISPOSITION OF SOLID WASTE") IN ITSELF SHALL NOT BE CONSIDERED TO BE AN APPLICATION FOR A PERMIT. PROPER APPLICATION FOR PERMIT FORMS WILL BE MAILED TO YOU BY THE DIVISION OF LAND POLLUTION CONTROL, IF IT IS DEEMED THAT THE FACILITY REQUIRES A PERMIT.

8. BRIEFLY DESCRIBE THE PROCESS WHICH WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL:
THE TORIT DUST COLLECTOR COLLECTS THOSE CONSTITUENTS FROM MIXING PROPELLANT AND INHIBITOR. CONSTITUENTS ARE ACCUMULATED AS A RESULT OF THE ACTUAL MIXING OF MATERIALS IN A 55 GALLON DRUM ASSOCIATED WITH THE DUST COLLECTION SYSTEM.

9. [illegible] STATE OF THE WASTE MAT[illegible] Y, DUST, FIBERS, CRYSTALS, POWDER, [illegible] ETC. OF THE APPLICANT'S PROPOSED DISPOSAL SITE

POWDER

10. FOR THE WASTE STATE THE CHEMICAL COMPOSITION, EXPRESSED AS WEIGHT PERCENTAGES OF SOLID WASTE OR IN MILLIGRAMS PER LITER FOR LIQUIDS: SEE PAGE 12 OF 25

10a. STATE VOLUME & WEIGHT OF THE WASTE GENERATED BY THIS OPERATION: (GALS./LBS.)

DAILY 1.07 /DAY (10.7) WEEKLY 7.49/WK (74.9) MONTHLY 32.68 /MO. (326.8) YEARLY 359 /YR (3595) OTHER _____ EXPLAIN

11a. WILL THE WASTE MATERIAL BE DEPOSITED IN A SANITARY LANDFILL PERMITTED BY THE ENVIRONMENTAL PROTECTION AGENCY?

☐ YES ☒ NO

11b. IF THE ANSWER TO 1a IS "YES", STATE THE NAME AND AGENCY SUPPLEMENTAL PERMIT NUMBER OF SUCH SITE.

NAME _____ SUPPLEMENTAL PERMIT NO. _____

12a. WILL THE WASTE MATERIAL BE STORED OR PROCESS AT THE APPLICANT PLANT OR PREMISES? ☒ YES ☐ NO

12b. IF THE ANSWER TO 12a IS "YES", EXPLAIN.

THE EXPLOSIVE WASTE MATERIAL IS "ACCUMULATED FOR LESS THAN 90 DAYS" AT THE GENERATING LOCATION. THE WASTE IS TRANSFERRED DIRECTLY TO THE "THERMAL TREATMENT" FACILITY FOR "WASTE TREATMENT" OR TRANSFERRED TO THE INTERIM STATUS "STORAGE" FACILITY. ("TERMS" AS DEFINED BY WASTE REGULATIONS)

13a. WILL THE WASTE MATERIAL BE TRANSPORTED TO A REMOTE SITE FOR STORAGE, PROCESSING, OR DISPOSAL? ☒ YES ☐ NO

13b. IF THE ANSWER TO 13a IS "YES", EXPLAIN.

IF THE WASTE CANNOT BE TREATED IMMEDIATELY AT THE "THERMAL TREATMENT" FACILITY, IT MAY HAVE TO BE TRANSFERRED TO THE INTERIM STATUS "STORAGE" FACILITY UNTIL WHICH TIME IT CAN BE TRANSFERRED AND TREATED AT THE "THERMAL TREATMENT" FACILITY.

14a. WILL THE WASTE MATERIAL BE INCINERATED? ☒ YES ☐ NO

14b. IF THE ANSWER TO 14a IS "YES", EXPLAIN.

THE WASTE MATERIAL IS INCINERATED "AS DEFINED BY THE AIR POLLUTION CONTROL REGULATIONS OR "TREATED BY THERMAL TREATMENT" AS DEFINED BY THE LAND POLLUTION CONTROL REGULATIONS.

15a. IF THE WASTE WILL BE DISPOSED OR UTILIZED IN A MANNER NOT OTHERWISE DESCRIBED, STATE THE METHOD OF UTILIZATION OR DISPOSAL TO BE USED AND THE OWNER AND LOCATION OF THE DISPOSAL OR PROCESSING FACILITY AND EXPLAIN.

N/A

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield IL 62794-9276

217/782-2113

OPERATING PERMIT

PERMITTEE

Olin Corporation
Attn: Arthur Heinz
P.O. Box 278
Marion, IL 62959

Application No.: 83090009 I.D. No.: 199862AAB
Applicant's Designation: AN-STERN Date Received: August 15, 1988
Subject: Sternvent Dust Collector & 3 Lathes
Date Issued: September 2, 1988 Expiration Date: September 9, 1993
Location: Crab Orchard Wildlife Refuge, Rural Marion

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of three lathes (Select Machine Tool, Mysore Kirloskar, Enco Mfg.) with a common Sternvent dust collector as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. This permit is issued based upon a minimal hourly emission rate and negligible annual emissions (less than 0.1 ton/year) of particulate matter (TSP) from three lathes.

Terry A. Sweitzer

Terry A. Sweitzer, P.E.
Manager, Permit Section
Division of Air Pollution Control

TAS:SRS:jmm/5069H/32

cc: Region 3

RECEIVED
SEP 1 9 1988
J. [illegible]

001531

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR OPERATING PERMITS

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special permit condition(s).

1. The issuance of this permit does not release the permittee from compliance with state and federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or with applicable local laws, ordinances and regulations.

2. The Agency has issued this permit based upon the information submitted by the permittee in the permit application. Any misinformation, false statement or mispresentation in the application shall be grounds for revocation under 35 Ill. Adm. Code 201.207.

3. a. The permittee shall not authorize, cause, direct or allow any modification, as defined in 35 Ill. Adm. Code 201.102, of equipment, operations or practices which are reflected in the permit application as submitted unless a new application or request for revision of the existing permit is filed with the Agency and unless a new permit or revision of the existing permit(s) is issued for such modification.

   b. This permit only covers emission sources and control equipment while physically present at the indicated plant location(s). Unless the permit specifically provides for equipment relocation, this permit is void for an item of equipment on the day it is removed from the permitted location(s) or if all equipment is removed, notwithstanding the expiration date specified on the permit.

4. The permittee shall allow any duly authorized agent of the Agency, upon the presentation of credentials, at reasonable times:

   a. to enter the permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,

   b. to have access to and to copy any records required to be kept under the terms and conditions of this permit,

   c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,

   d. to obtain and remove samples of any discharge or emission of pollutants, and

   e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring or recording any activity, discharge or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are located,

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the facilities,

c. does not take into consideration or attest to the structural stability of any unit or part of the project, and

d. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. The facilities covered by this permit shall be operated in such a manner that the disposal of air contaminants collected by the equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

7. The permittee shall maintain all equipment covered under this permit in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

8. The permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment. This record shall be made available to any agent of the Environmental Protection Agency at any time during normal working hours and/or operating hours. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9. No person shall cause or allow continued operation during malfunction, breakdown or startup of any emission source or related air pollution control equipment if such operation would cause a violation of an applicable emission standard or permit limitation. Should a malfunction, breakdown or startup occur which results in emissions in excess of any applicable standard or permit limitation, the permittee shall:

   a. immediately report the incident to the Agency's Regional Field Operations Section Office by telephone, telegraph, or other method as constitutes the fastest available alternative, and shall comply with all reasonable directives of the Agency with respect to the incident;

   b. maintain the following records for a period of no less than two (2) years:

      i. date and duration of malfunction, breakdown or startup,

      ii. full and detailed explanation of the cause,

      iii. contaminants emitted and an estimate of quantity of emissions,

      iv. measures taken to minimize the amount of emissions during the malfunction, breakdown or startup, and

      v. measures taken to reduce future occurrences and frequency of incidents.

10. If the permit application contains a compliance program and project completion schedule, the permittee shall submit a project completion status report within thirty (30) days of any date specified in the compliance program and project completion schedule or at six month intervals, whichever is more frequent.

11. Beginning one year from the date of this permit the permittee shall submit an "Annual Emission Report," form APC-208, as required by 35 Ill. Adm. Code 201.302. (Note: If the permittee has other operating permits for this facility, the "Annual Emission Report" for all such permits may be included in a single annual submission.)

Olin
ORDNANCE

MARION OPERATIONS

3 August 1988

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Attention: Mr. Terry Sweitzer, P.E.
Manager, Permit Section

Reference: Operating Permit Renewal
I.D. No.: 199862AAB
Application No.: 83090009
Expiration Date: 10-11-88

Dear Mr. Sweitzer:

Enclosed please find an operating permit renewal application. Upon review of the original application, changes were noted. Attached are originals and three (3) copies of the applicable IEPA forms to update the permit currently on file. The enclosed application supersedes all previous applications on file.

If further information or clarification is required, please advise.

Very truly yours,

Arthur Heinz, Jr.
Director

gad cc
JMS/AHJ:jb

Enclosures

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

APPLICATION FOR A PERMIT (A)

☐ CONSTRUCT ☒ OPERATE Renewal

NAME OF EQUIPMENT TO BE CONSTRUCTED OR OPERATED: Sternvent Dust Collector (B)

FOR AGENCY USE ONLY

I. D. NO. _____

PERMIT NO. _____

DATE _____

1a. NAME OF OWNER: Olin Corporation			2a. NAME OF OPERATOR: Olin Corporation	
1b. STREET ADDRESS OF OWNER: P.O. Box 278			2b. STREET ADDRESS OF OPERATOR: P.O. Box 278	
1c. CITY OF OWNER: Marion			2c. CITY OF OPERATOR: Marion	
1d. STATE OF OWNER: Illinois	1e. ZIP CODE: 62959		2d. STATE OF OPERATOR: Illinois	2e. ZIP CODE: 62959

3a. NAME OF CORPORATE DIVISION OR PLANT: Marion Operations			3b. STREET ADDRESS OF EMISSION SOURCE: Crab Orchard Wildlife Refuge	
3c. CITY OF EMISSION SOURCE: Rural Marion	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	3e. TOWNSHIP: N/A	3f. COUNTY: Williamson	3g. ZIP CODE: 62959

4. ALL CORRESPONDENCE TO: (TITLE AND/OR NAME OF INDIVIDUAL) Arthur Heinz, Jr., Director	5. TELEPHONE NUMBER FOR AGENCY TO CALL: (618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) ☒ OWNER ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR DESIGNATION FOR THIS APPLICATION. (C) A N - S T E R N

8. THE UNDERSIGNED HEREBY MAKES APPLICATION FOR A PERMIT AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. BY AFFIXING HIS SIGNATURE HERETO HE FURTHER CERTIFIES THAT HE IS AUTHORIZED TO EXECUTE THIS APPLICATION.

AUTHORIZED SIGNATURE(S). (D)

BY [signature] SIGNATURE 8/10/88 DATE

Arthur Heinz, Jr.
TYPED OR PRINTED NAME OF SIGNER

Director
TITLE OF SIGNER

BY _____ SIGNATURE _____ DATE

TYPED OR PRINTED NAME OF SIGNER

TITLE OF SIGNER

(A) THIS FORM IS TO PROVIDE THE AGENCY WITH GENERAL INFORMATION ABOUT THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS FORM MAY ONLY BE USED TO REQUEST ONE TYPE OF PERMIT - CONSTRUCTION OR OPERATION - AND NOT BOTH.

(B) ENTER THE GENERIC NAME OF THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS NAME WILL APPEAR ON THE PERMIT WHICH MAY BE ISSUED PURSUANT TO THIS APPLICATION. THIS FORM MUST BE ACCOMPANIED BY OTHER APPLICABLE FORMS AND INFORMATION.

(C) PROVIDE A DESIGNATION IN ITEM 7 ABOVE WHICH YOU WOULD LIKE THE AGENCY TO USE FOR IDENTIFICATION OF YOUR EQUIPMENT. YOUR DESIGNATION WILL BE REFERENCED IN CORRESPONDENCE FROM THIS AGENCY RELATIVE TO THIS APPLICATION. YOUR DESIGNATION MUST NOT EXCEED TEN (10) CHARACTERS.

(D) THIS APPLICATION MUST BE SIGNED IN ACCORDANCE WITH PCB REGS., CHAPTER 2, PART 1, RULE 103(a)(4) OR 103(b)(5) WHICH STATES: "ALL APPLICATIONS AND SUPPLEMENTS THERETO SHALL BE SIGNED BY THE OWNER AND OPERATOR OF THE EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT, OR THEIR AUTHORIZED AGENT, AND SHALL BE ACCOMPANIED BY EVIDENCE OF AUTHORITY TO SIGN THE APPLICATION."

IF THE OWNER OR OPERATOR IS A CORPORATION, SUCH CORPORATION MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF THE CORPORATION'S BOARD OF DIRECTORS AUTHORIZING THE PERSONS SIGNING THIS APPLICATION TO CAUSE OR ALLOW THE CONSTRUCTION OR OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

9. DO S THIS [illegible] ☐ YES ☐ NO See Page 3 Of 23

IF A PLOT PLAN [illegible] PREVIOUSLY BEEN SUBMITTED, SPECIFY

AGENCY I D NUMBER _____ APPLICATION NUMBER _____

IS THE APPROXIMATE SIZE OF APPLICANT'S PREMISES LESS THAN 1 ACRE?

☐ YES ☒ NO SPECIFY 200 ACRES

10. DOES THIS APPLICATION CONTAIN A PROCESS FLOW DIAGRAM(S) THAT ACCURATELY AND CLEARLY REPRESENTS CURRENT PRACTICE.

☒ YES ☐ NO

See Page 8 Of 23

11a. WAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, OWNED OR CONTRACTED FOR, BY THE APPLICANT PRIOR TO APRIL 14, 1972

☐ YES ☒ NO

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT A, THAT
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT WAS IN COMPLIANCE WITH THE RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION PRIOR TO APRIL 14, 1972.

11b. HAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, NOT PREVIOUSLY RECEIVED AN OPERATING PERMIT

☒ YES ☐ NO See Page 4 Of 23

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT B, THAT
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT
(i) IS ORIGINAL OR ADDITIONAL EQUIPMENT
(ii) REPLACES EXISTING EQUIPMENT, OR
(iii) MODIFIES EXISTING EQUIPMENT
(c) PROVIDES THE ANTICIPATED OR ACTUAL DATES OF THE COMMENCEMENT OF CONSTRUCTION AND THE START-UP OF THE EQUIPMENT

12. IF THIS APPLICATION INCORPORATES BY REFERENCE A PREVIOUSLY GRANTED PERMIT(S), HAS FORM APC-210, "DATA AND INFORMATION - INCORPORATION BY REFERENCE" BEEN COMPLETED.

☐ YES ☒ NO

APPLICATION FOR OPERATING PERMIT ONLY

13. DOES THE STARTUP OF AN EMISSION SOURCE COVERED BY THIS APPLICATION PRODUCE AIR CONTAMINANT EMISSION IN EXCESS OF APPLICABLE STANDARDS

☐ YES ☒ NO

IF "YES," HAS FORM APC-203, "OPERATION DURING STARTUP" BEEN COMPLETED FOR THIS SOURCE.

☐ YES ☐ NO

14. DOES THIS APPLICATION REQUEST PERMISSION TO OPERATE AN EMISSION SOURCE DURING MALFUNCTIONS OR BREAKDOWNS.

☐ YES ☒ NO

IF "YES," HAS FORM APC-204, "OPERATION DURING MALFUNCTION AND BREAKDOWN" BEEN COMPLETED FOR THIS SOURCE

☐ YES ☐ NO

15. IS AN EMISSION SOURCE COVERED BY THIS APPLICATION SUBJECT TO A FUTURE COMPLIANCE DATE

☐ YES ☒ NO

IF "YES," HAS FORM APC-202, "COMPLIANCE PROGRAM & PROJECT COMPLETION SCHEDULE," BEEN COMPLETED FOR THIS SOURCE

☐ YES ☐ NO

16. DOES THE FACILITY COVERED BY THIS APPLICATION REQUIRE AN EPISODE ACTION PLAN (REFER TO GUIDELINES FOR EPISODE ACTION PLANS)

☐ YES ☒ NO

17. WAS THIS OPERATION THE SUBJECT OF A VARIANCE PETITION FILED WITH THE ILLINOIS POLLUTION CONTROL BOARD ON OR BEFORE JUNE 13, 1972

☐ YES ☒ NO

IF "YES," CITE PCB NUMBER(S) _____, DATE OF BOARD ORDER _____

WAS CONSTRUCTION OR MODIFICATION OF EQUIPMENT, SUFFICIENT TO ACHIEVE COMPLIANCE WITH THE "RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION" EFFECTIVE PRIOR TO APRIL 14, 1972, COMMENCED PRIOR TO APRIL 14, 1972

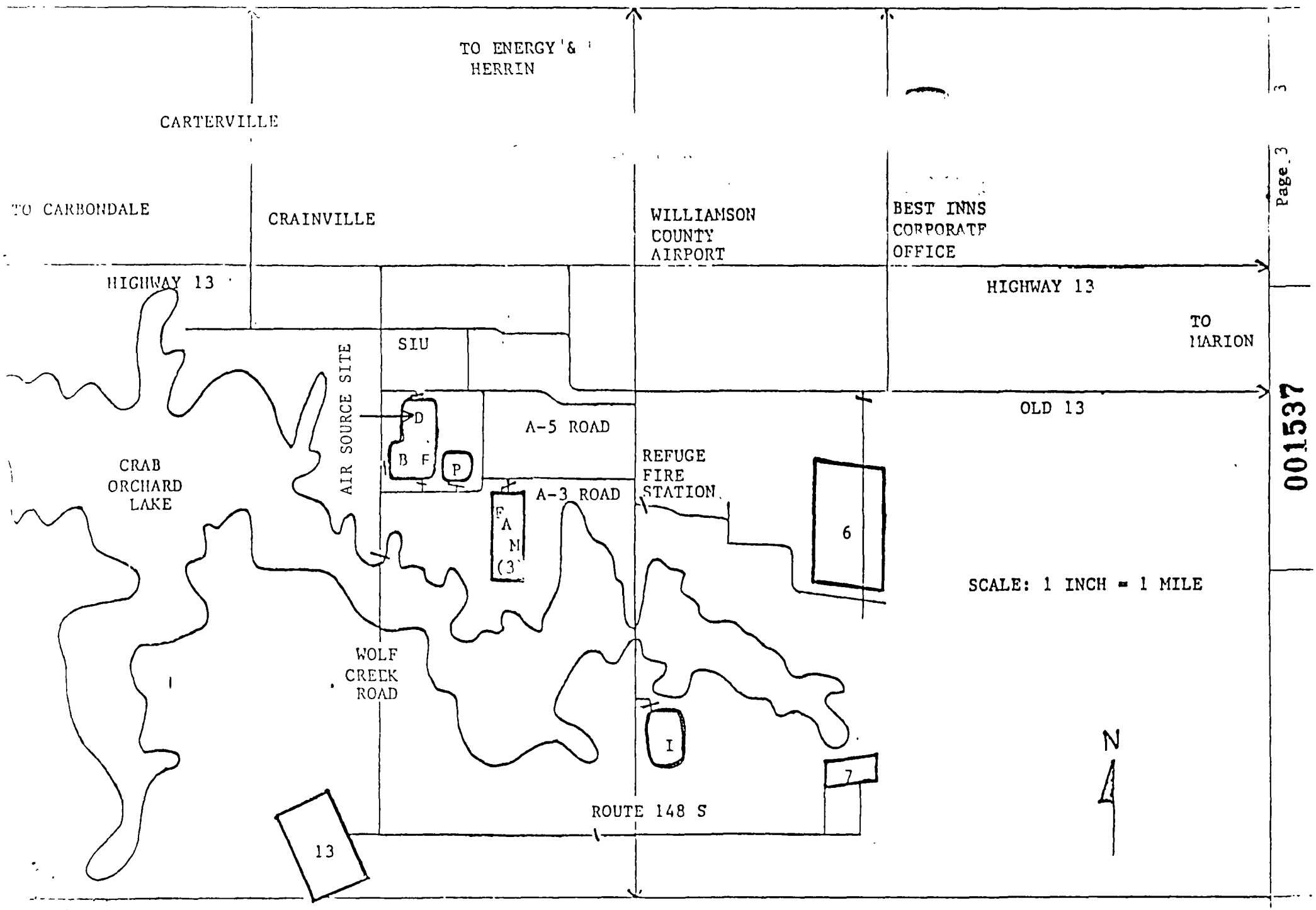
☐ YES ☒ NO

IF "YES," EXPLAIN IN DETAIL, AND IDENTIFY EXPLANATION AS EXHIBIT D.

18. LIST AND IDENTIFY ALL FORMS, EXHIBITS, AND OTHER INFORMATION SUBMITTED AS PART OF THIS APPLICATION. INCLUDE THE PAGE NUMBERS ON EACH ITEM (ATTACH ADDITIONAL SHEETS IF NECESSARY)

	Page No.
APC 200	1, 2
Plot Plan/Map	3
Exhibit B	4
APC 220	5-7
Process Flow Diagram	8
APC 260	9-14
Manufacturer's Information	15-16
APC 103	17-18
Material Constituents	19
Delegation Of Authority	20-23

TOTAL NUMBER OF PAGES 23



OLIN CORPORATION

001537

EXHIBIT B

a) DESCRIPTION OF EQUIPMENT:

Olin maintains a production facility southwest of Marion, Illinois, in a rural area. This facility, Olin designates as the "D" area, generally is used for the manufacturing of military gas generator propulsion systems and blending of various explosive mixes for these systems and medium caliber ammunition.

The manufacturing of the gas generators requires machining operations for the propellant and inhibitor components. This operation consists of using lathes on the gas generator components to meet specification configuration. Hoods are located above each lathe (total three). Air emissions from the operation are drawn into air pollution control equipment. The equipment used is a Sternvent Dust Collector, Model #DE152 which utilizes high collection efficiency cloth filter bags. As air is drawn through the collector, most dust and collected materials settle into a drum. Smaller contaminants trapped against the filter cloth surface are dislodged by activating the manual filter shaker. Filtered air from the process is recirculated back into the operational bay of the building. (Reference: Agency I.D. Number 199862AAB, Application Number 83090009.)

b) EQUIPMENT STATUS:

The equipment is operational.

c) DATES OF CONSTRUCTION AND START UP OF THE EQUIPMENT:

The equipment is operational. This application is an operating permit renewal.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1/2 Section 1009. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION PROCESS EMISSION SOURCE	AN-STERN (8/3/88) Operating Permit Renewal Olin Corp., Marion, IL

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER)
Olin Corporation	Marion Operations
3. STREET ADDRESS OF EMISSION SOURCE	4. CITY OF EMISSION SOURCE
Crab Orchard Wildlife Refuge	(Rural) Marion

GENERAL INFORMATION

5. NAME OF PROCESS	6. NAME OF EMISSION SOURCE EQUIPMENT	
Lathe Machining AN Solid Propellant	Lathe / Lathe / Lathe	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER	8. MODEL NUMBER	9. SERIAL NUMBER.
Enco Select Machine Tool/Mysore Kirloskar/Mfg.	1240G/EL2/110-0815	2806/1082/2486

10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE:
Process Flow Diagram: Lathe Machining See Page 8 Of 23

11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION)
N/A

12. AVERAGE OPERATING TIME OF EMISSION SOURCE	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE
7 HRS/DAY 3.7 DAYS/WK 25 WKS/YR	7 HRS/DAY 5 DAYS/WK 39 WKS/YR

14. PERCENT OF ANNUAL THROUGHPUT
DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. AN Propellant Grain (Oversized)	b. 18.6 LB/HR	c. 52 LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. AN Propellant Grain	b. 15.8 LB/HR	c. 44 LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. AN Propellant Dust	b. 2.8 LB/HR	c. 8 LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b. ———	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

*EMISSION INFORMATION N/A

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED)

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION N/A

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

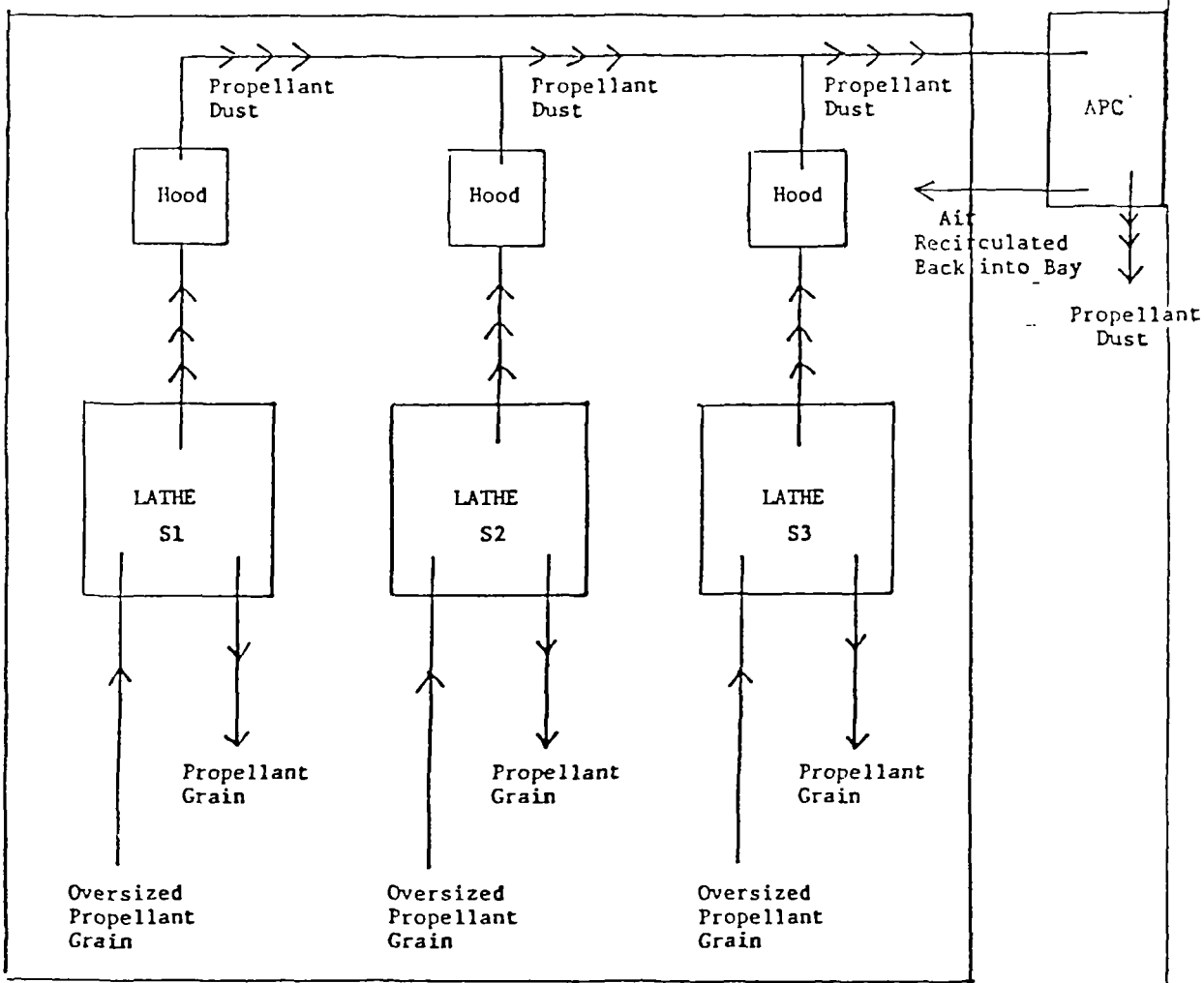
66. EXIT HEIGHT ABOVE GRADE:	67. EXIT DIAMETER:
68. GREATEST HEIGHT OF NEARBY BUILDINGS: FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE· °F	72. EXIT GAS TEMPERATURE· °F
71. GAS FLOW RATE THROUGH EACH EXIT: ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

PROCESS FLOW DIAGRAM: LATHE MACHINING

Note: 3 (Three) Emission Sources: S1, S2, S3
1 (One) Air Pollution Control Device
(Sternvent Dust Collector): APC

	Ave.	Max.
Inlet/Exit Gas Condition	70°F	80°F
Inlet/Exit Gas Flow Rate	900 SCFM	1050 SCFM
Filter Unit Efficiency: 99%		



Building D-1-8
Bay D

Raw Material

Product

Waste

S1 Lathe - Select Machine Tool

S2 Lathe - Mysore Kirloskar

S3 Lathe - Enco Mfg.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111½, Section 1039. Disclosure of this information is required under that section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION AIR POLLUTION CONTROL EQUIPMENT	AN-STERN (8/3/88) Operating Permit Renewal Olin Corp., Marion, IL

*THIS INFORMATION FORM IS FOR AN INDIVIDUAL UNIT OF AIR POLLUTION CONTROL EQUIPMENT OR AN AIR POLLUTION CONTROL SYSTEM.

1. NAME OF OWNER Olin Corporation	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) Marion Operations
3. STREET ADDRESS OF CONTROL EQUIPMENT. P.O. Box 278	4. CITY OF CONTROL EQUIPMENT. Rural Marion
5. NAME OF CONTROL EQUIPMENT OR CONTROL SYSTEM: Sternvent Cabinet Dust Collector	

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION.
2. COMPLETE THE APPROPRIATE SECTION FOR THE UNIT OF CONTROL EQUIPMENT, OR THE APPROPRIATE SECTIONS FOR THE CONTROL SYSTEM. BE CERTAIN THAT THE ARRANGEMENT OF VARIOUS UNITS IN A CONTROL SYSTEM IS MADE CLEAR IN THE PROCESS FLOW DIAGRAM.
3. COMPLETE PAGE 6 OF THIS FORM, EMISSION INFORMATION AND EXHAUST POINT INFORMATION.
4. EFFICIENCY VALUES SHOULD BE SUPPORTED WITH A DETAILED EXPLANATION OF THE METHOD OF CALCULATION, THE MANNER OF ESTIMATION, OR THE SOURCE OF INFORMATION. REFERENCE TO THIS FORM ANY RELEVANT INFORMATION OR EXPLANATION INCLUDED IN THIS PERMIT APPLICATION.
5. EFFICIENCY VALUES AND CERTAIN OTHER ITEMS OF INFORMATION ARE TO BE GIVEN FOR AVERAGE AND MAXIMUM OPERATION OF THE SOURCE EQUIPMENT. FOR EXAMPLE, "MAXIMUM EFFICIENCY" IS THE EFFICIENCY OF THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT MAXIMUM OPERATION, AND "AVERAGE FLOW RATE" IS THE FLOW RATE INTO THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT AVERAGE OPERATION
6. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS", APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY.

AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY.

MAXIMUM OPERATION - THE GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

ADSORPTION UNIT N/A	
1. FLOW DIAGRAM DESIGNATION(S) OF ADSORPTION UNIT.	
2. MANUFACTURER	3. MODEL NAME AND NUMBER
4. ADSORBENT ☐ ACTIVATED CHARCOAL TYPE _____ ☐ OTHER SPECIFY _____	
5. ADSORBATE(S).	
6. NUMBER OF BEDS PER UNIT.	7. WEIGHT OF ADSORBENT PER BED LB
8. DIMENSIONS OF BED THICKNESS _____ IN, SURFACE AREA _____ SQUARE IN	
9. INLET GAS TEMPERATURE °F	10. PRESSURE DROP ACROSS UNIT. INCH H_2O GAUGE
11. TYPE OF REGENERATION ☐ REPLACEMENT ☐ STEAM ☐ OTHER SPECIFY _____	
12. METHOD OF REGENERATION ☐ ALTERNATE USE OF _____ ENTIRE UNITS ☐ ALTERNATE USE OF _____ BEDS IN A SINGLE UNIT ☐ SOURCE SHUT DOWN ☐ OTHER DESCRIBE	
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
13. TIME ON LINE BEFORE REGENERATION: MIN/BED	15. TIME ON LINE BEFORE REGENERATION MIN/BED
14. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4). %	16. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4) %

AFTERBURNER N/A	
1. FLOW DIAGRAM DESIGNATION(S) OF AFTERBURNER.	
2. MANUFACTURER	3. MODEL NAME AND NUMBER
4. COMBUSTION CHAMBER DIMENSIONS LENGTH _____ IN, CROSS-SECTIONAL AREA _____ SQUARE IN.	
5. INLET GAS TEMPERATURE °F	7. FUEL: ☐ GAS ☐ OIL: SULFUR _____ WT%
6. OPERATING TEMPERATURE OF COMBUSTION CHAMBER. °F	8. BURNERS PER AFTERBURNER @ BTU/HR EACH
9. CATALYST USED ☐ NO ☐ YES: DESCRIBE CATALYST _____	
10. HEAT EXCHANGER USED: ☐ NO ☐ YES DESCRIBE HEAT EXCHANGER _____	
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
11. GAS FLOW RATE: SCFM	13. GAS FLOW RATE: SCFM
12. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4): %	14. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4) °c

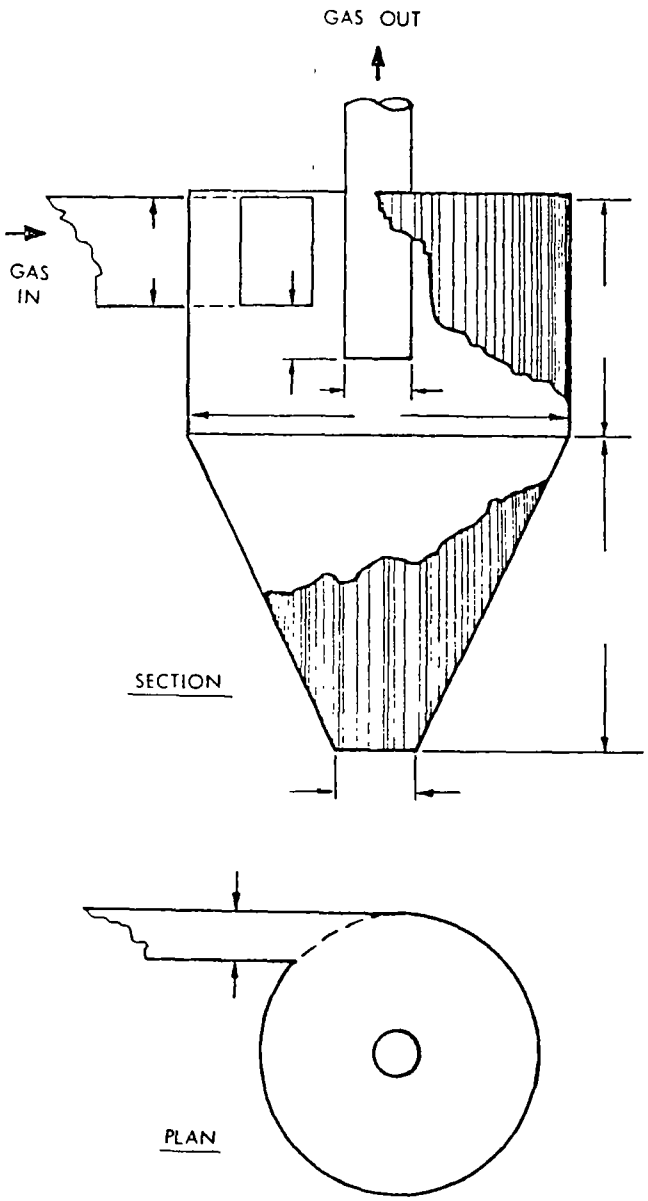
CYCLONE N/A

1. FLOW DIAGRAM DESIGNATION(S) OF CYCLONE:

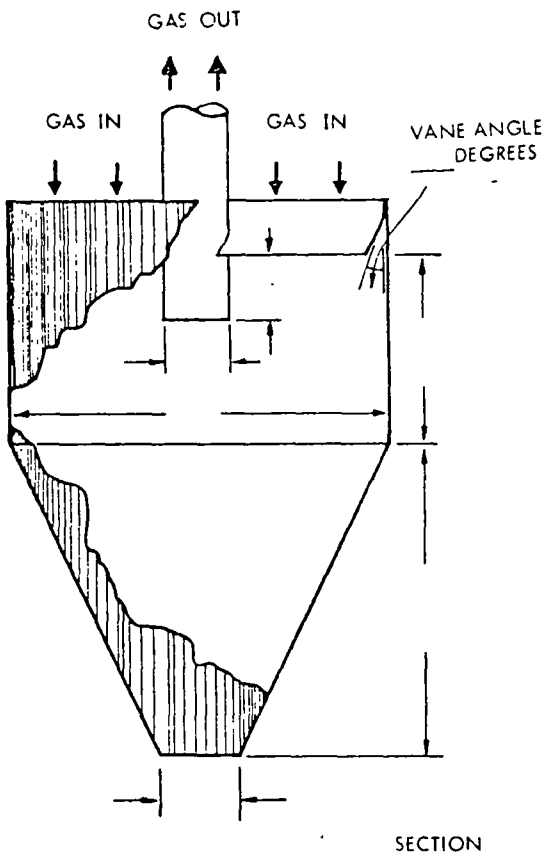
2. MANUFACTURER: —	3. MODEL
4. TYPE OF CYCLONE: ☐ SIMPLE ☐ MULTIPLE	5. NUMBER OF CYCLONES IN EACH MULTIPLE CYCLONE

6. DIMENSION THE APPROPRIATE SKETCH (IN INCHES) OR PROVIDE A DRAWING WITH EQUIVALENT INFORMATION:

TANGENTIAL INLET CYCLONE



AXIAL INLET CYCLONE
(INDIVIDUAL CYCLONE OF MULTIPLE CYCLONE)



NOT TO SCALE

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
7. GAS FLOW RATE: SCFM	9. GAS FLOW RATE: SCFM
8. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): %	10. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): %

		N/A
1. FLOW DIAGRAM DESIGNATION OF CONDENSER		
2. MANUFACTURER	3. MODEL NAME AND NUMBER	4. HEAT EXCHANGE AREA FT^2

AVERAGE OPERATION OF SOURCE		MAXIMUM OPERATION OF SOURCE	
5. COOLANT FLOW RATE PER CONDENSER: WATER ____ GPM AIR ____ SCFM OTHER TYPE ____, FLOW RATE ____		10. COOLANT FLOW RATE PER CONDENSER WATER ____ GPM AIR ____ SCFM OTHER TYPE ____, FLOW RATE ____	
6. GAS FLOW RATE· SCFM		11. GAS FLOW RATE· SCFM	
7. COOLANT TEMPERATURE INLET ___ °F OUTLET ___ °F	8. GAS TEMPERATURE INLET ___ °F OUTLET ___ °F	12. COOLANT TEMPERATURE INLET ___ °F OUTLET ___ °F	13. GAS TEMPERATURE INLET ___ °F OUTLET ___ °F
9. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4) %		14. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4) %	

*ELECTRICAL PRECIPITATOR N/A	
1. FLOW DIAGRAM DESIGNATION OF ELECTRICAL PRECIPITATOR	
2. MANUFACTURER	3. MODEL NAME AND NUMBER
4. COLLECTING ELECTRODE AREA PER CONTROL DEVICE· FT^2	

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
5. GAS FLOW RATE. SCFM	7. GAS FLOW RATE· SCFM
6. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4) %	8. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4) %
SUBMIT THE MANUFACTURER'S SPECIFICATIONS FOR THE ELECTRICAL PRECIPITATOR. REFERENCE THE INFORMATION TO THIS FORM.	

*ELECTRICAL PRECIPITATORS VARY GREATLY IN THEIR DESIGN AND IN THEIR COMPLEXITY. THE ITEMS IN THIS SECTION PROVIDE A MINIMUM AMOUNT OF INFORMATION. THE APPLICANT MUST, HOWEVER, SUBMIT WITH THIS APPLICATION THE MANUFACTURER'S SPECIFICATIONS, INCLUDING ANY DRAWINGS, TECHNICAL DOCUMENTS, ETC. IF THE INFORMATION PROVIDED BY THE MANUFACTURER'S SPECIFICATIONS IS INSUFFICIENT FOR FULL AND ACCURATE ANALYSIS, THE AGENCY WILL REQUEST SPECIFIC ADDITIONAL INFORMATION.

FILTER UNIT	
1. FLOW DIAGRAM DESIGNATION(S) OF FILTER UNIT· Process Flow Diagram: Lathe Machining	See Page 8 Of 23
2. MANUFACTURER Sternvent Co., Inc.	3. MODEL NAME AND NUMBER Model No. DE152
4. FILTERING MATERIAL· Cotton Sateen	5. FILTERING AREA 150 square feet
6. CLEANING METHOD [x] SHAKER [ ] REVERSE AIR [ ] PULSE AIR [ ] PULSE JET [ ] OTHER SPECIFY ____	
7. GAS COOLING METHOD [ ] DUCTWORK LENGTH ____ FT., DIAM ____ IN. [ ] BLEED-IN AIR [ ] WATER SPRAY [ ] OTHER SPECIFY N/A	

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. GAS FLOW RATE (FROM SOURCE) 900 SCFM	12. GAS FLOW RATE (FROM SOURCE)· 1050 SCFM
9. GAS COOLING FLOW RATE N/A BLEED-IN AIR ____ SCFM, WATER SPRAY ____ GPM	13. GAS COOLING FLOW RATE: N/A BLEED-IN AIR ____ SCFM, WATER SPRAY ____ GPM
10. INLET GAS CONDITION· TEMPERATURE 70 °F DEWPOINT 50 °F	14. INLET GAS CONDITION: TEMPERATURE 80 °F DEWPOINT 57 °F
11. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4) 99 %	15. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4)· 99 %

Reference: Manufacturer's data.
Effeciency per phone conversation with distributor

SCRUBBER N/A

1. FLOW DIAGRAM DESIGNATION(S) OF SCRUBBER

2. MANUFACTURER	3. MODEL NAME AND NUMBER

4. TYPE OF SCRUBBER

☐ HIGH ENERGY GAS STREAM PRESSURE DROP _____ INCH H_2O

☐ PACKED· PACKING TYPE _____, PACKING SIZE _____, PACKED HEIGHT _____ IN.

☐ SPRAY· NUMBER OF NOZZLES _____, NOZZLE PRESSURE _____ PSIG

☐ OTHER SPECIFY _____ ATTACH DESCRIPTION AND SKETCH WITH DIMENSIONS

5. TYPE OF FLOW

☐ COCURRENT ☐ COUNTERCURRENT ☐ CROSSFLOW

6. SCRUBBER GEOMETRY·

LENGTH IN DIRECTION OF GAS FLOW _____ IN., CROSS-SECTIONAL AREA _____ SQUARE IN.

7. CHEMICAL COMPOSITION OF SCRUBBANT:

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. SCRUBBANT FLOW RATE· GPM	12. SCRUBBANT FLOW RATE: GPM
9. GAS FLOW RATE SCFM	13. GAS FLOW RATE: SCFM
10. INLET GAS TEMPERATURE: °F	14. INLET GAS TEMPERATURE: °F
11. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____ % PARTICULATE _____ % GASEOUS	15. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4). _____ % PARTICULATE _____ % GASEOUS

OTHER TYPE OF CONTROL EQUIPMENT N/A

1. FLOW DIAGRAM DESIGNATION(S) OF "OTHER TYPE" OF CONTROL EQUIPMENT:

2. GENERIC NAME OF "OTHER" EQUIPMENT:	3. MANUFACTURER:	4. MODEL NAME AND NUMBER:

5. DESCRIPTION AND SKETCH, WITH DIMENSIONS AND FLOW RATES, OF "OTHER" EQUIPMENT:

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
6. FLOW RATES: _____ GPM _____ SCFM	8. FLOW RATES: _____ GPM _____ SCFM
7. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4): %	9. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4) %

EMISSION INFORMATION

1. NUMBER OF IDENTICAL CONTROL UNITS OR CONTROL SYSTEMS (DESCRIBE AS REQUIRED).

N/A

AVERAGE OPERATION OF SOURCE

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	2a. GR/SCF	b. 0.028 LB/HR	c. Calculated estimate based on past experience and 99% collector efficiency.
CARBON MONOXIDE	3a. PPM (VOL)	b. N/A LB/HR	c.
NITROGEN OXIDES	4a. PPM (VOL)	b. N/A LB/HR	c.
ORGANIC MATERIAL	5a. PPM (VOL)	b. N/A LB/HR	c.
SULFUR DIOXIDE	6a. PPM (VOL)	b. N/A LB/HR	c.
OTHER (SPECIFY)	7a. PPM (VOL)	b. N/A LB/HR	c.

MAXIMUM OPERATION OF SOURCE

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	8a. GR/SCF	b. 0.08 LB/HR	c. Calculated estimate based on past experience and 99% collector efficiency.
CARBON MONOXIDE	9a. PPM (VOL)	b. N/A LB/HR	c.
NITROGEN OXIDES	10a. PPM (VOL)	b. N/A LB/HR	c.
ORGANIC MATERIAL	11a. PPM (VOL)	b. N/A LB/HR	c.
SULFUR DIOXIDE	12a. PPM (VOL)	b. N/A LB/HR	c.
OTHER (SPECIFY)	13a. PPM (VOL)	b. N/A LB/HR	c.

***"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

EXHAUST POINT INFORMATION

1. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

Process Flow Diagram: Lathe Machining See Page 8 Of 23

2. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

Air Recirculated Back Into Operational Bay

3. EXIT HEIGHT ABOVE GRADE: 20 Ft. (Collector Exhausts Into Operational Bay)	4. EXIT DIAMETER: 10" x 5½"
5. GREASTEST HEIGHT OF NEARBY BUILDINGS: Est. 20 FT	6. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY 450 FT
AVERAGE OPERATION OF SOURCE	**MAXIMUM OPERATION OF SOURCE**
7. EXIT GAS TEMPERATURE: 70 °F	9. EXIT GAS TEMPERATURE: 80 °F
8. GAS FLOW RATE THROUGH EACH EXIT: 900 ACFM	10. GAS FLOW RATE THROUGH EACH EXIT: 1050 ACFM

IT IS IMPERATIVE THAT THESE INSTRUCTIONS BE THOROUGHLY READ BY BOTH THE INSTALLER AND THE OPERATOR OF THIS EQUIPMENT.

BASIC FACTS

Sternvent cabinet dust arresters, D series are self-contained, compact filter bag collectors, requiring a minimum of floor space. A proven, widely used method of dust collection, they are especially suited for industry, schools, and maintenance facilities, where saving space and easy maintenance are important considerations.

Standard filter media is cotton sateen with optional materials available to suit particular applications. The filter bags are envelope shaped.

The Sternvent D series arresters are available in 4 types; DG, DS, DE & DC with various cabinet styles (see illustrations on opposite page). Information in this manual applies to all types and styles, but concentrates primarily on the basic unit with drawer, with necessary differences noted.

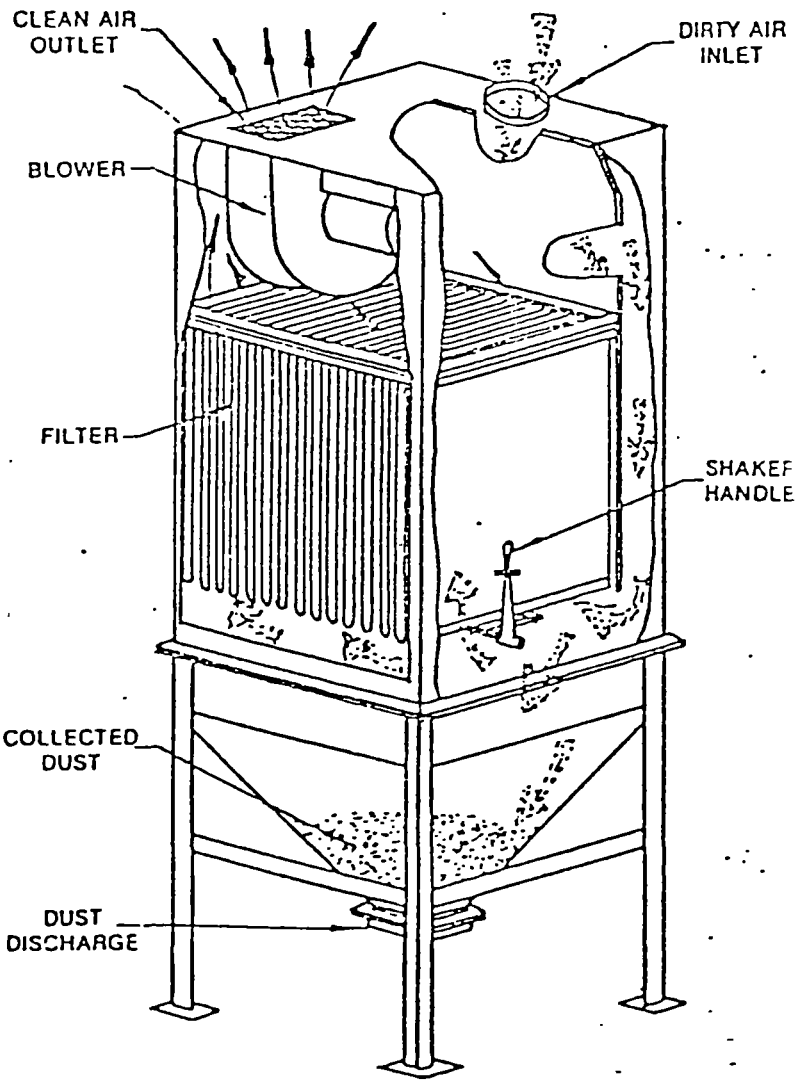
OPERATIONAL EXPLANATION

Dust laden air is directed around the baffled inlet, causing the heavier particles to be diverted out of the airstream. (This greatly reduces the dust load on the filters, permitting more effective use of the filter area and longer intervals between shaking.) The blower then pulls the air up through the filter bags. Finer dust particles are trapped on the exterior surface of the filter forming a slight cake of dust. This increases the cleaning efficiency of the unit by preventing even extremely fine particles from passing through the collector. The cake takes a few hours to a few days to develop depending on usage.

Periodically the filters must be shaken to remove the excess buildup. The dust that is dislodged from the bags is collected in the dust drawer, bin or hopper. See Fig. 2

PRE-INSTALLATION

The Sternvent Cabinet Dust Arrester should be located with consideration for maintenance, inspection, shortest run for location of duct and electrical work and access for emptying drawer (hopper or bin).

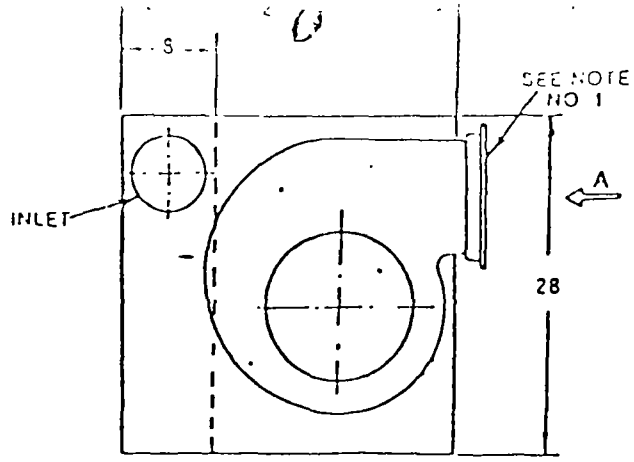


OPERATIONAL CROSS SECTION VIEW OF MODEL DGH 305

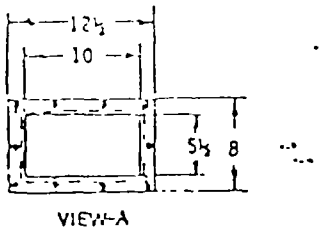
FIG. 2

(1)

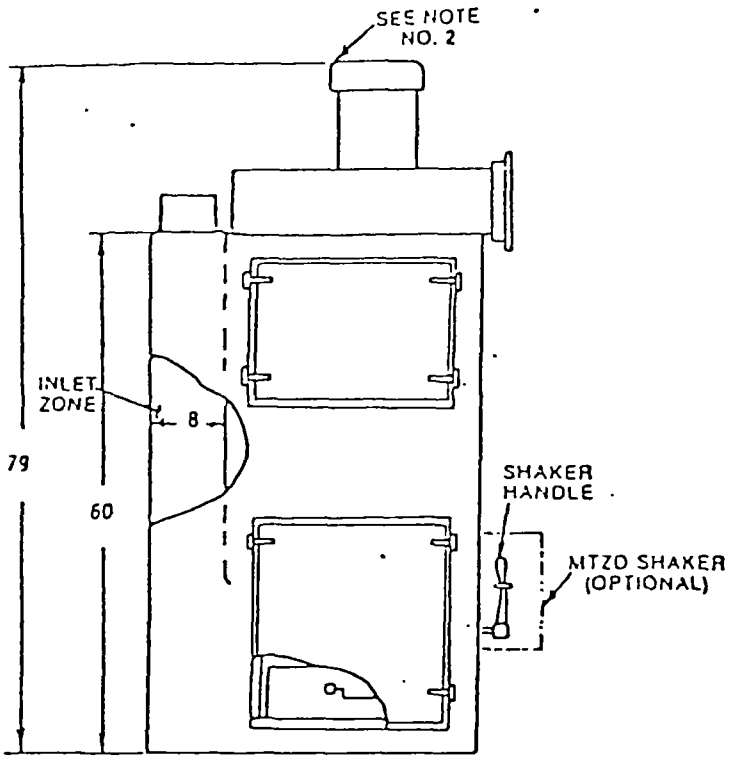
JOB NO.



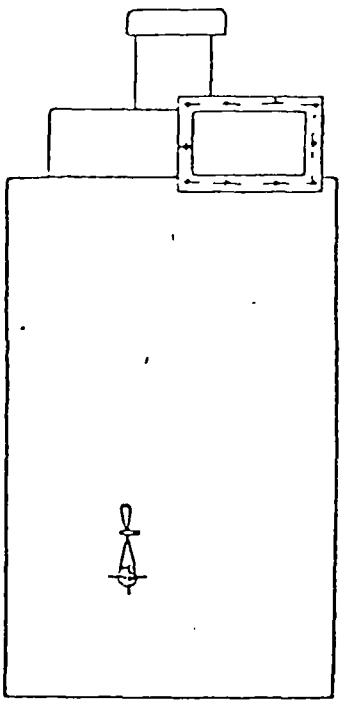
TOP VIEW



VIEW-A



FRONT VIEW



SIDE VIEW

MULTIPLE RATING TABLES

MODEL DE 152					MODEL					MODEL				
2 HP	CFM	EXT. S P	A/C RATIO	ΔP * FILT	HP	CFM	SP	A/C RATIO	ΔP FILT	HP	CFM	SP	A/C RATIO	ΔP FILT
	1050	5.0	8.0:1	2.0										
INLET 6" DIA	1000	6.0	7.0:1	1.5	INLET					INLET				
	900	6.7	6.0:1	1.0										
SHIPPING WEIGHT 450 LBS.														

NOTES

1. FOR OTHER BLOWER ARR. SEE DRAWING NO 1200
2. 6 " CLEARANCE REQUIRED ABOVE MOTOR
3. THIS DRAWING NOT CERTIFIED FOR CONSTRUCTION UNLESS SIGNED BY STERNVENT ENGINEERING DEPT.

CERTIFIED..... DATE_____

SPECIFICATION

1. MOTOR 3450 RPM, 230/460V, 3PH, 60HZ TEFC
2. FILTER AREA: 150 SQ. FT.
3. FILTER MEDIA: COTTON SATEEN SET OF 15-25X32
4. DUST DRAWER: 16 CU.FT.
5. STD. CONSTRUCTION: 14 GA MS
6. STD FINISH: RED OXIDE PRIMER & EXTERIOR ONE COAT GRAY ENAMEL

*Pressure drop through clean filters (inches W.G.)

OPTIONS

1. SILENCER (DWG 148) ☐
2. MOTORIZED SHAKER (DWG 115) ☐
3. SPECIAL FILTER MEDIA ☐
4. SINGLE PHASE TO 7.5 HP ☐
5. SPECIAL PAINT ☐
6. EXPLOSION RELIEF DOOR ☐
7. DISCHARGE ELBOW ☐

STERNVENT CO. INC.
BROOKLYN, N.Y. 11231

SPECIFICATION DRAWING
SERIES D150
DUST COLLECTOR

DWN	STYLE E
REV A	DRWG NO. 10308

MODIFICATIONS:

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1/2 Section 1039 Disclosure of this information is required under that Section Failure to do so may prevent this form from being processed and could result in your application being denied This form has been approved by the Forms Management Center

DISPOSITION OF WASTE MATERIALS(A)

NAME OF EQUIPMENT OR PROCESS TO BE CONSTRUCTED OR OPERATED (B) Sternvent Dust Collector

FOR AGENCY USE ONLY

REFERENCE I.D. NO. _____

REFERENCE PERMIT NO. _____

DATE _____

1a. NAME OF OWNER:		2a. NAME OF OPERATOR	
Olin Corporation		Olin Corporation	
1b. STREET ADDRESS OF OWNER		2b. STREET ADDRESS OF OPERATOR:	
P.O. Box 278		P.O. Box 278	
1c. CITY OF OWNER:		2c. CITY OF OPERATOR:	
Marion		Marion	
1d. STATE OF OWNER	1e. ZIP CODE	2d. STATE OF OPERATOR:	2e. ZIP CODE:
Illinois	62959	Illinois	62959

3a. NAME OF CORPORATE DIVISION OR PLANT:		3b. STREET ADDRESS OF EMISSION SOURCE.		
Marion Operations		Crab Orchard Wildlife Refuge		
3c. CITY OF EMISSION SOURCE	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	3e. TOWNSHIP	3f. COUNTY	3g. ZIP CODE:
Rural Marion		N/A	Williamson	62959

4. ALL CORRESPONDENCE TO: (NAME OF INDIVIDUAL)	5. TELEPHONE NUMBER FOR AGENCY TO CALL
Arthur Heinz, Jr., Director	(618) 985-8211
6. ADDRESS FOR CORRESPONDENCE (CHECK ONLY ONE) ☒ OWNER ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR ID NUMBER FOR THIS APPLICATION (C) AN-STERN

(A) THIS FORM IS TO BE COMPLETED FOR ANY STATIONARY EMISSION SOURCE THAT WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL THAT MAY BE DISPOSED OF IN A MANNER THAT MAY CAUSE OR TEND TO CAUSE POLLUTION IN ILLINOIS EITHER ALONE OR IN COMBINATION WITH MATTER FROM OTHER SOURCES OR SO AS TO VIOLATE REGULATIONS OR STANDARDS ADOPTED BY THE POLLUTION CONTROL BOARD UNDER THE ENVIRONMENTAL PROTECTION ACT.

(B) ENTER INFORMATION HERE FROM COMPARABLE BLOCK ON APC-200 - "APPLICATION FOR A PERMIT".

(C) ENTER INFORMATION IN ITEM 7 ABOVE SAME AS ITEM 7 APC-200 - "APPLICATION FOR A PERMIT".

(D) IF ADDITIONAL SPACE IS REQUIRED USE ADDITIONAL SHEETS, ATTACH AND IDENTIFY INFORMATION BY APPROPRIATE BLOCK NUMBER AS IT APPEARS ON THIS FORM.

THIS ADDENDUM WILL BE REVIEWED BY THE DIVISION OF LAND POLLUTION CONTROL AND THE OWNER WILL BE NOTIFIED WHETHER OR NOT A DETAILED APPLICATION FOR A PERMIT WILL NEED TO BE SUBMITTED. THIS FORM APC-103 - "DISPOSITION OF SOLID WASTE") IN ITSELF SHALL NOT BE CONSIDERED TO BE AN APPLICATION FOR A PERMIT. PROPER APPLICATION FOR PERMIT FORMS WILL BE MAILED TO YOU BY THE DIVISION OF LAND POLLUTION CONTROL, IF IT IS DEEMED THAT THE FACILITY REQUIRES A PERMIT.

8. BRIEFLY DESCRIBE THE PROCESS WHICH WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL:

Propellant grains will be machined for outside diameter. A hood will be over each lathe to collect propellant dust into a Sternvent Dust Collector. The waste material will be accumulated in a 55 gallon drum.

Powder

10. FOR THE WASTE STATE THE CHEMICAL COMPOSITION, EXPRESSED AS WEIGHT PERCENTAGES OF SOLID WASTE OR IN MILLIGRAMS PER LITER FOR LIQUIDS –

See Page 19 Of 23 For Material Constituents

10a. STATE VOLUME & WEIGHT OF THE WASTE GENERATED BY THIS OPERATION (Gal./Lb.)
DAILY 1.96 /DAY WEEKLY 6.86 /WK MONTHLY 14.29 /MO. YEARLY 171.5 /YR OTHER _____ EXPLAIN

19.6 68.6 142.9 1715

11a. WILL THE WASTE MATERIAL BE DEPOSITED IN A SANITARY LANDFILL PERMITTED BY THE ENVIRONMENTAL PROTECTION AGENCY?

☐ YES ☒ NO

11b. IF THE ANSWER TO 1a IS "YES", STATE THE NAME AND AGENCY SUPPLEMENTAL PERMIT NUMBER OF SUCH SITE.

NAME _____ SUPPLEMENTAL PERMIT NO. _____

12a. WILL THE WASTE MATERIAL BE STORED OR PROCESS AT THE APPLICANT PLANT OR PREMISES? ☒ YES ☐ NO

12b. IF THE ANSWER TO 12a IS "YES", EXPLAIN.

The explosive waste material will be "accumulated for less than 90 days" at the generating location. The waste will then be transferred directly to the "Thermal Treatment" facility for "waste treatment" or transferred to the interim status waste "storage" facility. ("Terms" as defined by waste regulations.)

13a. WILL THE WASTE MATERIAL BE TRANSPORTED TO A REMOTE SITE FOR STORAGE, PROCESSING, OR DISPOSAL? ☒ YES ☐ NO

13b. IF THE ANSWER TO 13a IS "YES", EXPLAIN.

If the waste cannot be treated immediately at the "Thermal Treatment" facility, it may have to be transferred to the interim "storage" facility until which time it can be transferred and treated at the "Thermal Treatment" facility.

14a. WILL THE WASTE MATERIAL BE INCINERATED? ☒ YES ☐ NO

14b. IF THE ANSWER TO 14a IS "YES", EXPLAIN.

The waste material is burned in a thermal treatment operation as defined by the Land Pollution Control regulations and also controlled by the Air Pollution Control regulations for incineration.

15a. IF THE WASTE WILL BE DISPOSED OR UTILIZED IN A MANNER NOT OTHERWISE DESCRIBED, STATE THE METHOD OF UTILIZATION OR DISPOSAL TO BE USED AND THE OWNER AND LOCATION OF THE DISPOSAL OR PROCESSING FACILITY AND EXPLAIN.

N/A

AN PROPELLANT CONSTITUENTS

CONSTITUENT	RANGE %
Ammonium Nitrate	58.55 - 79.5
Polybutediene Acrylic Acid	0 - 14.5
Guanidine Nitrate	0 - 5.25
Ammonium Oxalate	0 - 5.75
Sodium Barbiturate	0.9 - 2.2
Carbon Black	1.9 - 3.1
Acetyl Triethyl Citrate	0 - 12.1
2,4-Dinitrophenoxyethanol	0 - 10.7
Toluene - 2,4-Diamine	0 - 1.0
N-Phenylmorpholine	0 - 1.0
Cellulose Acetate	0 - 11.6
Ammonium Ferri-Ferro-Cyanide (Milori Blue)	0 - 1.0

217/782-2113

JOINT CONSTRUCTION AND OPERATING PERMIT

PERMITTEE

Olin Corporation, Ordinance Products
Post Office Drawer "G"
Marion, Illinois 62959

Attention: G. W. Barton

Application No.: 83090009
Applicant's Designation: AN-STERN
Subject: STERNVENT DUST COLLECTOR
Date Issued: October 21, 1983

I.D. No.: 199862AAB
Date Received: October 11, 1983

Operating Permit Expiration Date: October 11, 1988

Location: Crab Orchard Refuge

Permit is hereby granted to the above-designated Permittee to CONSTRUCT 1 Sternvent dust collector and to OPERATE an AN propellant lathe and Sternvent dust collector as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. This permit is issued based upon adding control equipment (Sternvent dust collector) to an existing source from which emissions were previously contained inside a building, with no increase in particulate matter emissions into the atmosphere.

B. Mathur

Bharat Mathur, P.E.
Manager, Permit Section
Division of Air Pollution Control

BM:MJP:ct/8408C,54

cc: Region 3

001554

PS Form 3811, July 1982

● SEND: Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
   - ☑ Show to whom and date delivered ..... ____¢
   - ☐ Show to whom, date, and address of delivery .. ____¢
2. ☐ RESTRICTED DELIVERY ..... ____¢
   (The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $____

3. ARTICLE ADDRESSED TO: ATTN: BHARAT MATHUR
IL. EPA
DIV. OF AIR POL. CONTROL
SPRINGFIELD, IL 62706
2200 CHURCHILL ROAD

4. TYPE OF SERVICE:
   - ☐ REGISTERED ☐ INSURED
   - ☑ CERTIFIED ☐ COD
   - ☐ EXPRESS MAIL

ARTICLE NUMBER: P 773660

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☐ Authorized agent
Springfield, Illinois 62706

5. DATE OF DELIVERY: OCT 11 1983

POSTMARK (may be on reverse side)

6. ADDRESSEE'S ADDRESS (Only if requested)

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS

RETURN RECEIPT

☆ GPO: 1982-379-593

001555

Olin

P O DRAWER G MARION ILLINOIS 62959 • PHONE AC 618 985-8211

ORDNANCE PRODUCTS

10 October 1983

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Raod
Springfield, Illinois 62706

ATTENTION: Bharat Mathur

Application Number:	83090009
I.D. Number:	199862AAB
Applicant's Designation:	AN-STERN
Received:	September 9, 1983
Construction and Operation of:	Sternvent Dust Collector
Location:	Crab Orchard Refuge

Dear Mr. Bharat:

The following is submitted in response to your memo dated October 3, 1983, denying the above referenced joint construction and operating permit application because of incompleteness.

Please find attached two (2) copies of Form APC-220 with Items 20 through 44 and Items 51 - 63 completed in full.

It is hoped that this submission will supply all necessary information to allow permit approval. However, if further information is required, Olin will be pleased to attempt to comply with your request.

Very truly yours,

G. W. Barton, P.E.
Manager, Regulatory Compliance

/ccf

001556

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. AN Propellant Grain	b. 1.54 LB/HR	c. 2.06 LB/HR
21a. (See attachment 1)	b. [illegible] LB/HR	c. [illegible] LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. (Same as raw material)	b. [illegible] LB/HR	c. [illegible] LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. (Same as raw material)	b. [illegible] LB/HR	c. [illegible] LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b. ———	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

*EMISSION INFORMATION

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED)

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. -- GR/SCF	b. -1.54 LB/HR	c. (See attachment C)
CARBON MONOXIDE	53a. -- PPM (VOL)	b. -- LB/HR	c.
NITROGEN OXIDES	54a. -- PPM (VOL)	b. -- LB/HR	c.
ORGANIC MATERIAL	55a. -- PPM (VOL)	b. -- LB/HR	c.
SULFUR DIOXIDE	56a. -- PPM (VOL)	b. -- LB/HR	c.
**OTHER (SPECIFY)	57a. -- PPM (VOL)	b. -- LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. -- GR/SCF	b. 1.76 LB/HR	c. (See attachment C)
CARBON MONOXIDE	59a. -- PPM (VOL)	b. -- LB/HR	c.
NITROGEN OXIDES	60a. -- PPM (VOL)	b. -- LB/HR	c.
ORGANIC MATERIAL	61a. -- PPM (VOL)	b. -- LB/HR	c.
SULFUR DIOXIDE	62a. -- PPM (VOL)	b. -- LB/HR	c.
**OTHER (SPECIFY)	63a. -- PPM (VOL)	b. -- LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

66. EXIT HEIGHT ABOVE GRADE:	67. EXIT DIAMETER:
68. GREATEST HEIGHT OF NEARBY BUILDINGS: FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: °F	72. EXIT GAS TEMPERATURE: °F
71. GAS FLOW RATE THROUGH EACH EXIT: ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

ATTACHMENT 1

AN PROPELLANT GRAIN COMPOSITION

Ammonium Nitrate	62.3%
Cellulose Acetate	11.4%
Acetyl Triethyl Citrate	10.6%
Dinitrophenoxy Ethanol	10.5%
Sodium Barbiturate	1.0%
Carbon Black	3.0%
Toluene Diamine	.8%
N-Phenylmorpholine	.2%
Ammonium Oxalate	.2%

OLIN PROPRIETARY
This drawing is the property of
LIN CORPORATION
Ordnance Products
arion, Illinois

f th information contained herein has
n transmitted in confidence and the
oducti n, use, disclosure, in whole
i part, of the design or details is
roh bited without the written permiss
in Corporation.

217/782-2113

CERTIFIED MAIL

NOTICE OF INCOMPLETENESS

October 3, 1983

RECEIVED
OCT 6 1983
G. W. BARTON

Olin Corporation, Ordnance Products
P. O. Drawer "G"
Marion, Illinois 62959

Attention: G. W. Barton

Application No.:	83090009
I.D. No.:	199862AAB
Applicant's Designation:	AN-STERN
Received:	September 9, 1983
Construction & Operation of:	Sternvent Dust Collector
Location:	Crab Orchard Refuge

Gentlemen:

The Agency has determined the above referenced joint construction and operating permit application(s) to be incomplete because information was not provided as required by the Illinois Pollution Control Board Rules and Regulations, Chapter 2: Air Pollution, Rule 103(b)(3).

Specifically, the following information must be supplied in order for the application(s) to be considered complete:

1. Items 20 thru 44 on Form APC-220 must be completed in full. This information is needed in order to determine the process weight rate for this operation. The process weight rate is needed in order to determine the allowable emission rate of particulate matter from Rule 203(a) from this source.

2. Items 51 thru 63 on Form APC-220 must be completed in full. This information must be provided in order to evaluate compliance of the pollutant emission rates with the Chapter 2 Regulations. Also, please indicate if either asbestos or beryllium is used in the process and if so what the emission rates of those materials are (both average and maximum).

   Please note that although this source discharges into the building, the Agency considers this as emitting into the atmosphere since windows, doors, vents and ventilating systems will potentially allow these emissions to eventually get into the atmosphere.

Your application(s) will be reopened when this information is provided. Two copies of this information are required and will be considered together with your application(s) already on file. Please reference the application and I.D. numbers assigned above on any submission of information or any correspondence concerning this matter. This Notice of Incompleteness may be considered as a denial of the application for purposes of review.

If you have any questions concerning this letter, please contact Mangu Patel at 217/782-2113.

Very truly yours,

Bharat Mathur, P.E.
Manager, Permit Section
Division of Air Pollution Control

BM:MJP:jd/8230C/13

cc: Region 3

P12 9059691

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO I.E.P.A.
Div. of Air Pollution Control
STREET AND NO
2200 Churchill Road
P.O., STATE AND ZIP CODE
Springfield, IL. 62706

POSTAGE	$ 1.22
CERTIFIED FEE	75 ¢
SPECIAL DELIVERY	60 ¢
RESTRICTED DELIVERY	¢
SHOW TO WHOM AND DATE DELIVERED	¢
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY	¢
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES	$ 2.57
POSTMARK OR DATE	

CONSULT POSTMASTER FOR FEES
OPTIONAL SERVICES
RETURN RECEIPT SERVICE

PS Form 3800, Apr. 1976

PS Form 3811, July 1982

a SENDER: Complete items 1, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1 The following service is requested (check one).
- [X] Show to whom and date delivered ..... ¢
- [ ] Show to whom, date, and address of delivery .. ¢
2. [ ] RESTRICTED DELIVERY..... ¢
(The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $

3. ARTICLE ADDRESSED TO: I.E.P.A.
Division of Air Pollution Contro
2200 Churchill Road
Springfield, Illinois 62706

4. TYPE OF SERVICE:
- [ ] REGISTERED
- [ ] INSURED
- [X] CERTIFIED
- [ ] COD
- [ ] EXPRESS MAIL

ARTICLE NUMBER: 9059691

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE [ ] Addressee [ ] Authorized agent
Illinois Environmental Protection Agcy.
2200 Churchill Road
Springfield, Illinois 62706

5. DATE OF DELIVERY: SEP 9 1983

POSTMARK (may be on reverse side)

6. ADDRESSEE'S ADDRESS *(Only if requested)*

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS

RETURN RECEIPT

☆ GPO: 1982-379-593

001562

Olin

P O DRAWER G MARION ILLINOIS 62959 • PHONE AC 618 985-8211

ORDNANCE PRODUCTS

6 September 1983

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, IL. 62706

Attention : Bharat Mathur, P.E.
Manager, Permit Section

Dear Mr. Mathur :

Submitted herewith, in duplicate, are applications to construct and operate air pollution control equipment consisting of a Sternvent dust collector.

Please incorporate the submittals as a request for a joint construction and operating permit.

It is hoped that this submission will supply the required information to allow construction permit approval. If further information or clarification is required, Olin will be pleased to attempt to comply with you request.

Very truly yours,

G. W. Barton, P.E.
Manager of Regulatory
Compliance.

Enclosures

/sm

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

[illegible] Section 1009 [illegible] is [illegible] to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

APPLICATION FOR A PERMIT (A)	FOR AGENCY USE ONLY
☒ CONSTRUCT ☒ OPERATE	I. D. NO.
	PERMIT NO.
NAME OF EQUIPMENT TO BE CONSTRUCTED OR OPERATED STERNVENT DUST COLLECTOR (B)	DATE

1a. NAME OF OWNER: OLIN CORPORATION, ORDNANCE PRODUCTS		2a. NAME OF OPERATOR:	
1b. STREET ADDRESS OF OWNER: P.O. DRAWER "G"		2b. STREET ADDRESS OF OPERATOR: SAME	
1c. CITY OF OWNER: MARION		2c. CITY OF OPERATOR:	
1d. STATE OF OWNER: ILLINOIS	1e. ZIP CODE: 62959	2d. STATE OF OPERATOR:	2e. ZIP CODE:

3a. NAME OF CORPORATE DIVISION OR PLANT: ORDNANCE PRODUCTS		3b. STREET ADDRESS OF EMISSION SOURCE: CRAB ORCHARD REFUGE		
3c. CITY OF EMISSION SOURCE: MARION	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	3e. TOWNSHIP:	3f. COUNTY: WILLIAMSON	3g. ZIP CODE: 62959

4. ALL CORRESPONDENCE TO: (TITLE AND/OR NAME OF INDIVIDUAL) G.W. BARTON	5. TELEPHONE NUMBER FOR AGENCY TO CALL: 618 / 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) ☒ OWNER: ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR DESIGNATION FOR THIS APPLICATION: (C) AN-STERN

8. THE UNDERSIGNED HEREBY MAKES APPLICATION FOR A PERMIT AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. BY AFFIXING HIS SIGNATURE HERETO HE FURTHER CERTIFIES THAT HE IS AUTHORIZED TO EXECUTE THIS APPLICATION.

AUTHORIZED SIGNATURE(S): (D)

BY A. Heinz 9/7/83
SIGNATURE DATE

A. Heinz
TYPED OR PRINTED NAME OF SIGNER

Director of Ordnance Products
TITLE OF SIGNER

BY _____ _____
SIGNATURE DATE

_____
TYPED OR PRINTED NAME OF SIGNER

_____
TITLE OF SIGNER

(A) THIS FORM IS TO PROVIDE THE AGENCY WITH GENERAL INFORMATION ABOUT THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS FORM MAY ONLY BE USED TO REQUEST ONE TYPE OF PERMIT - CONSTRUCTION OR OPERATION - AND NOT BOTH.

(B) ENTER THE GENERIC NAME OF THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS NAME WILL APPEAR ON THE PERMIT WHICH MAY BE ISSUED PURSUANT TO THIS APPLICATION. THIS FORM MUST BE ACCOMPANIED BY OTHER APPLICABLE FORMS AND INFORMATION.

(C) PROVIDE A DESIGNATION IN ITEM 7 ABOVE WHICH YOU WOULD LIKE THE AGENCY TO USE FOR IDENTIFICATION OF YOUR EQUIPMENT. YOUR DESIGNATION WILL BE REFERENCED IN CORRESPONDENCE FROM THIS AGENCY RELATIVE TO THIS APPLICATION. YOUR DESIGNATION MUST NOT EXCEED TEN (10) CHARACTERS.

(D) THIS APPLICATION MUST BE SIGNED IN ACCORDANCE WITH PCB REGS., CHAPTER 2, PART 1, RULE 103(a)(4) OR 103(b)(5) WHICH STATES: "ALL APPLICATIONS AND SUPPLEMENTS THERETO SHALL BE SIGNED BY THE OWNER AND OPERATOR OF THE EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT, OR THEIR AUTHORIZED AGENT, AND SHALL BE ACCOMPANIED BY EVIDENCE OF AUTHORITY TO SIGN THE APPLICATION."

IF THE OWNER OR OPERATOR IS A CORPORATION, SUCH CORPORATION MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF THE CORPORATION'S BOARD OF DIRECTORS AUTHORIZING THE PERSONS SIGNING THIS APPLICATION TO CAUSE OR ALLOW THE CONSTRUCTION OR OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

001564

☒ YES ☐ NO SEE EXHIBIT "A"

IF A PLOT PLAN WAS PREVIOUSLY SUBMITTED, SPECIFY

AGENCY I.D. NUMBER _____ APPLICATION NUMBER _____

IS THE APPROXIMATE SIZE OF APPLICANT'S PREMISES LESS THAN 1 ACRE?

☐ YES ☐ NO SPECIFY _____ ACRES

10. DOES THIS APPLICATION CONTAIN A PROCESS FLOW DIAGRAM(S) THAT ACCURATELY AND CLEARLY REPRESENTS CURRENT PRACTICE.

☐ YES ☐ NO

11a. WAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, OWNED OR CONTRACTED FOR, BY THE APPLICANT PRIOR TO APRIL 14, 1972

☐ YES ☐ NO

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT A, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT WAS IN COMPLIANCE WITH THE RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION PRIOR TO APRIL 14, 1972.

NA

11b. HAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, NOT PREVIOUSLY RECEIVED AN OPERATING PERMIT.

☐ YES ☐ NO

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT B, THAT.
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT
(i) IS ORIGINAL OR ADDITIONAL EQUIPMENT
(ii) REPLACES EXISTING EQUIPMENT, OR
(iii) MODIFIES EXISTING EQUIPMENT
(c) PROVIDES THE ANTICIPATED OR ACTUAL DATES OF THE COMMENCEMENT OF CONSTRUCTION AND THE START-UP OF THE EQUIPMENT

12. IF THIS APPLICATION INCORPORATES BY REFERENCE A PREVIOUSLY GRANTED PERMIT(S), HAS FORM APC-210, "DATA AND INFORMATION--INCORPORATION BY REFERENCE" BEEN COMPLETED.

☐ YES ☒ NO NA

APPLICATION FOR OPERATING PERMIT ONLY

13. DOES THE STARTUP OF AN EMISSION SOURCE COVERED BY THIS APPLICATION PRODUCE AIR CONTAMINANT EMISSION IN EXCESS OF APPLICABLE STANDARDS:

☐ YES ☒ NO

IF "YES," HAS FORM APC-203, "OPERATION DURING STARTUP" BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

14. DOES THIS APPLICATION REQUEST PERMISSION TO OPERATE AN EMISSION SOURCE DURING MALFUNCTIONS OR BREAKDOWNS.

☐ YES ☒ NO

IF "YES," HAS FORM APC-204, "OPERATION DURING MALFUNCTION AND BREAKDOWN" BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

15. IS AN EMISSION SOURCE COVERED BY THIS APPLICATION SUBJECT TO A FUTURE COMPLIANCE DATE:

☐ YES ☒ NO

IF "YES," HAS FORM APC-202, "COMPLIANCE PROGRAM & PROJECT COMPLETION SCHEDULE," BEEN COMPLETED FOR THIS SOURCE

☐ YES ☐ NO

16. DOES THE FACILITY COVERED BY THIS APPLICATION REQUIRE AN EPISODE ACTION PLAN (REFER TO GUIDELINES FOR EPISODE ACTION PLANS).

☐ YES ☐ NO

17. WAS THIS OPERATION THE SUBJECT OF A VARIANCE PETITION FILED WITH THE ILLINOIS POLLUTION CONTROL BOARD ON OR BEFORE JUNE 13, 1972:

☐ YES ☒ NO

IF "YES," CITE: PCB NUMBER(S) _____, DATE OF BOARD ORDER _____

WAS CONSTRUCTION OR MODIFICATION OF EQUIPMENT, SUFFICIENT TO ACHIEVE COMPLIANCE WITH THE "RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION" EFFECTIVE PRIOR TO APRIL 14, 1972, COMMENCED PRIOR TO APRIL 14, 1972.

☐ YES ☒ NO

IF "YES," EXPLAIN IN DETAIL, AND IDENTIFY EXPLANATION AS EXHIBIT D.

18. LIST AND IDENTIFY ALL FORMS, EXHIBITS, AND OTHER INFORMATION SUBMITTED AS PART OF THIS APPLICATION. INCLUDE THE PAGE NUMBERS ON EACH ITEM (ATTACH ADDITIONAL SHEETS IF NECESSARY)

ATTACHMENTS:

APC-200
Page 1, 2
Addendum to APC200
Certificate of Zoning Approval
Exhibit "A" (Plot Map)

APC-220
Age 1, 2, 3

APC-260
Page 1, 2, 3, 4, 5, 6
Attachment "A"
Attachment "B"
Attachment "C"
Col Form "1"
Col Form "2"
Col Form "3"

TOTAL NUMBER OF PAGES _____

ADDENDUM TO APC 200 - FOR CONSTRUCTION PERMITS ONLY

19.a. Certificate by Applicant(s)

P.A. 82-682 amended Section 39(c) of the Illinois Environmental Protection Act to provide in part:

> "...No permit for the development or construction of a new facility, other than a regional pollution control facility, may be granted by the Agency unless the applicant submits proof to the Agency that the applicant has secured all necessary zoning approvals from the unit of local government having zoning jurisdiction over the proposed facility." (emphasis added)

Accordingly, to demonstrate compliance with the requirements of P.A. 82-682, I hereby certify that:

(a) I/We have secured all necessary zoning approvals from the unit of local government having zoning furisdiction over the proposed facility, or (b) that said facility complies with local zoning requirements and further approval is not required, or (c) no unit of local government has zoning jurisdiction over the proposed facility.

19.b. NAME OF APPLICANT FOR PERMIT OR AUTHORIZATION TO CONSTRUCT

Olin Corporation

P.O. Drawer "G"	Marion	Illinois	62959
STREET	CITY	STATE	ZIP

SIGNATURE [signature]

TITLE Engr Mgr. Eng Comp. ORGANIZATION

Addendum to APC 200

001566

CERTIFICATE OF LOCAL ZONING APPROVAL

This is to certify that the development or construction of a new pollution control facility by the Olin Corporation on the Crab Orchard National Wildlife Refuge located in rural Williamson County, Illinois, does not violate any Williamson County siting/zoning regulations. This also certifies that the Williamson County Board of Commissioners has local siting/zoning jurisdiction over the proposed facility and that the undersigned have authority to certify on behalf of the Williamson County Board of Commissioners.

John Hamilton,
Chairman of the Board

5-17-82
Date

William Mattingly
Williamson County Commissioner

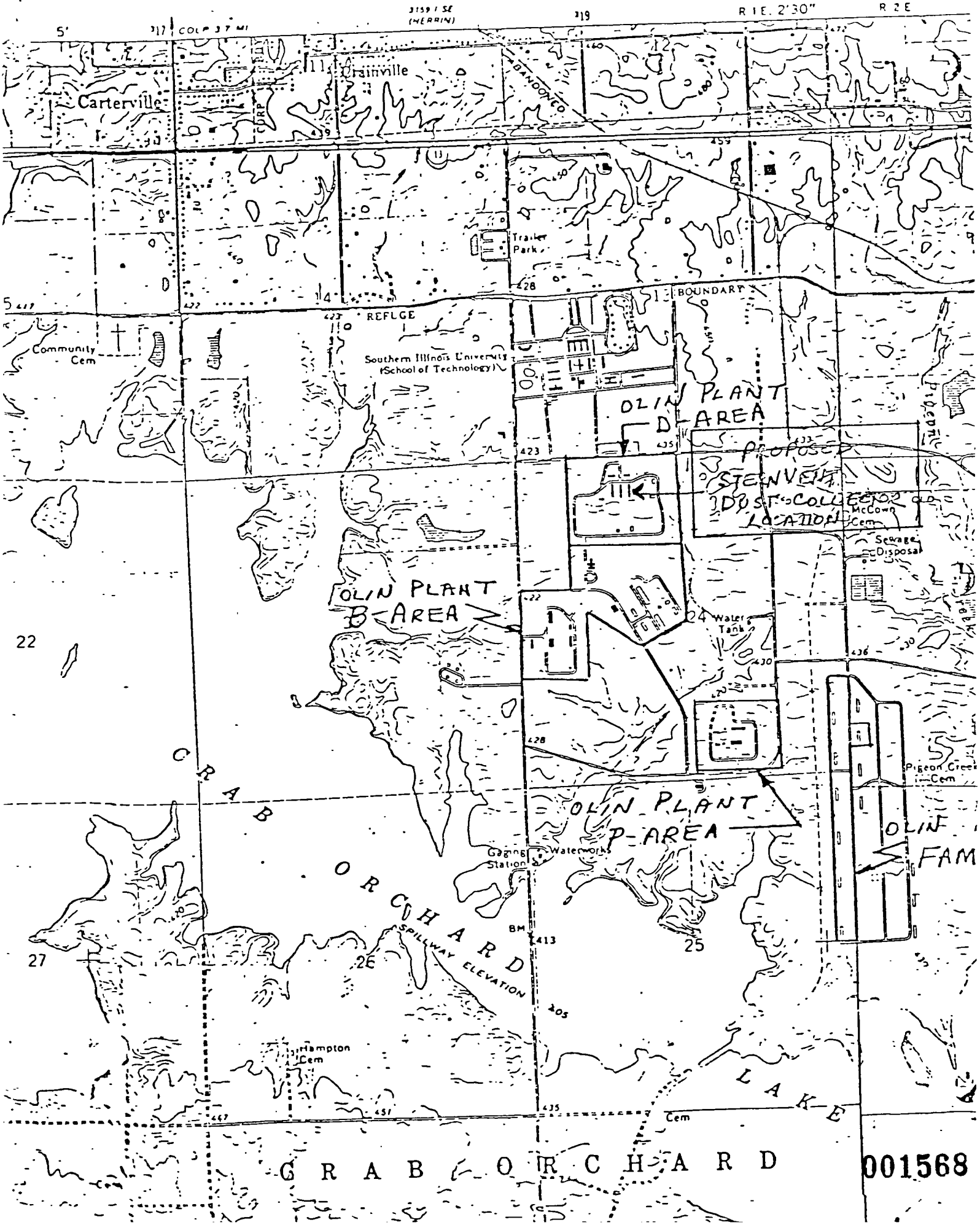
5-17-82
Date

Curtis Palmer,
Williamson County Commissioner

5/17/82
Date

001567

EXHIBIT "A"



001568

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

[illegible] is required under that section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION PROCESS EMISSION SOURCE	

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER: OLIN CORPORATION, ORDNANCE PRODUCTS	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER):
3. STREET ADDRESS OF EMISSION SOURCE: P.O. DRAWER "G"	4. CITY OF EMISSION SOURCE: MARION, ILLINOIS

GENERAL INFORMATION

5. NAME OF PROCESS: LATHE MACHINING A.N. SOLID PROPELLANT	6. NAME OF EMISSION SOURCE EQUIPMENT: STERNVENT SELF CONTAINED CABINET DUST COLLEC	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER: STERNVANT CO., INC.	8. MODEL NUMBER: DE 152	9. SERIAL NUMBER: 4283
10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE:		
11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION):		
12. AVERAGE OPERATING TIME OF EMISSION SOURCE: 7 HRS/DAY 3.7 DAYS/WK 25 WKS/YR	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE: 7 HRS/DAY 5 DAYS/WK 39 WKS/YR	
14. PERCENT OF ANNUAL THROUGHPUT: DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %		

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. A.N. PROPELLANT	b. 1.54 LB/HR	c. 1.76 LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a.	b. LB/HR	c. LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a.	b. LB/HR	c. LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b. ———	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐	N R	BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

EMISSION INFORMATION

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED).

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. — GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	53a. — PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
** OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
** OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

66. EXIT HEIGHT ABOVE GRADE:	67. EXIT DIAMETER:
68. GREATEST HEIGHT OF NEARBY BUILDINGS. FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: °F	72. EXIT GAS TEMPERATURE: °F
71. GAS FLOW RATE THROUGH EACH EXIT: ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111½, Section 1039. Disclosure of this information is required under that section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION AIR POLLUTION CONTROL EQUIPMENT	

*THIS INFORMATION FORM IS FOR AN INDIVIDUAL UNIT OF AIR POLLUTION CONTROL EQUIPMENT OR AN AIR POLLUTION CONTROL SYSTEM.

1. NAME OF OWNER: OLIN CORPORATION, ORDNANCE PRODUCTS	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER).
3. STREET ADDRESS OF CONTROL EQUIPMENT: P.O. DRAWER "G"	4. CITY OF CONTROL EQUIPMENT: MARION, ILLINOIS
5. NAME OF CONTROL EQUIPMENT OR CONTROL SYSTEM: STERNUENT SELF CONTAINED CABINET DUST (ARRESTER) COLLECTOR MODEL NO. DE 152	

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION.
2. COMPLETE THE APPROPRIATE SECTION FOR THE UNIT OF CONTROL EQUIPMENT, OR THE APPROPRIATE SECTIONS FOR THE CONTROL SYSTEM. BE CERTAIN THAT THE ARRANGEMENT OF VARIOUS UNITS IN A CONTROL SYSTEM IS MADE CLEAR IN THE PROCESS FLOW DIAGRAM.
3. COMPLETE PAGE 6 OF THIS FORM, EMISSION INFORMATION AND EXHAUST POINT INFORMATION.
4. EFFICIENCY VALUES SHOULD BE SUPPORTED WITH A DETAILED EXPLANATION OF THE METHOD OF CALCULATION, THE MANNER OF ESTIMATION, OR THE SOURCE OF INFORMATION. REFERENCE TO THIS FORM ANY RELEVANT INFORMATION OR EXPLANATION INCLUDED IN THIS PERMIT APPLICATION.
5. EFFICIENCY VALUES AND CERTAIN OTHER ITEMS OF INFORMATION ARE TO BE GIVEN FOR AVERAGE AND MAXIMUM OPERATION OF THE SOURCE EQUIPMENT. FOR EXAMPLE, "MAXIMUM EFFICIENCY" IS THE EFFICIENCY OF THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT MAXIMUM OPERATION, AND "AVERAGE FLOW RATE" IS THE FLOW RATE INTO THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT AVERAGE OPERATION.
6. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS", APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
MAXIMUM OPERATION - THE GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

ADSORPTION UNIT

1. FLOW DIAGRAM DESIGNATION(S) OF ADSORPTION UNIT:

2. MANUFACTURER:

3. MODEL NAME AND NUMBER.

4. ADSORBENT:
☐ ACTIVATED CHARCOAL· TYPE _____ ☐ OTHER SPECIFY _____

5. ADSORBATE(S)·

6. NUMBER OF BEDS PER UNIT:

7. WEIGHT OF ADSORBENT PER BED: LB

8. DIMENSIONS OF BED:
THICKNESS _____ IN, SURFACE AREA _____ SQUARE IN

9. INLET GAS TEMPERATURE: °F

10. PRESSURE DROP ACROSS UNIT: INCH H_2O GAUGE

11. TYPE OF REGENERATION:
☐ REPLACEMENT ☐ STEAM ☐ OTHER SPECIFY _____

12. METHOD OF REGENERATION:
☐ ALTERNATE USE OF _____ ENTIRE UNITS ☐ ALTERNATE USE OF _____ BEDS IN A SINGLE UNIT
☐ SOURCE SHUT DOWN ☐ OTHER DESCRIBE

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
13. TIME ON LINE BEFORE REGENERATION: MIN/BED	15. TIME ON LINE BEFORE REGENERATION: MIN/BED
14. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4). %	16. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4): %

AFTERBURNER

1. FLOW DIAGRAM DESIGNATION(S) OF AFTERBURNER

2. MANUFACTURER:

3. MODEL NAME AND NUMBER:

4. COMBUSTION CHAMBER DIMENSIONS:
LENGTH _____ IN, CROSS-SECTIONAL AREA _____ SQUARE IN.

5. INLET GAS TEMPERATURE: °F

7. FUEL:
☐ GAS ☐ OIL· SULFUR _____ WT%

6. OPERATING TEMPERATURE OF COMBUSTION CHAMBER: °F

8. BURNERS PER AFTERBURNER: @ BTU/HR EACH

9. CATALYST USED:
☐ NO ☐ YES: DESCRIBE CATALYST _____

10. HEAT EXCHANGER USED:
☐ NO ☐ YES: DESCRIBE HEAT EXCHANGER _____

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
11. GAS FLOW RATE: SCFM	13. GAS FLOW RATE: SCFM
12. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4)· %	14. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4). %

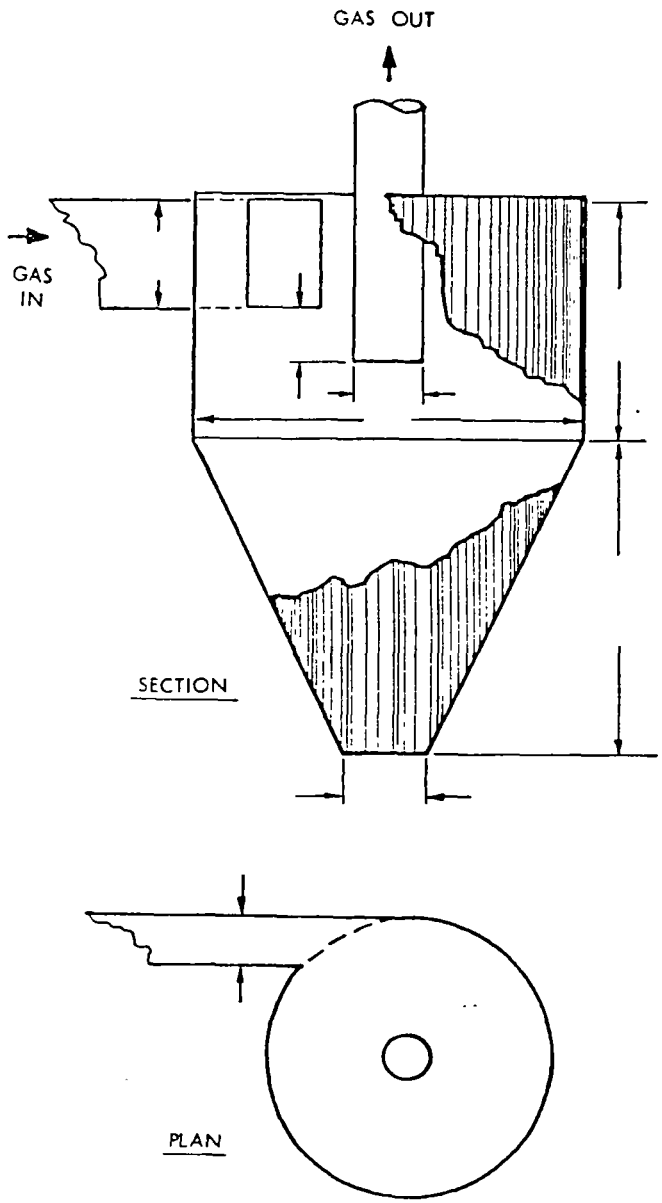
CYCLONE

1. FLOW DIAGRAM DESIGNATION(S) OF CYCLONE

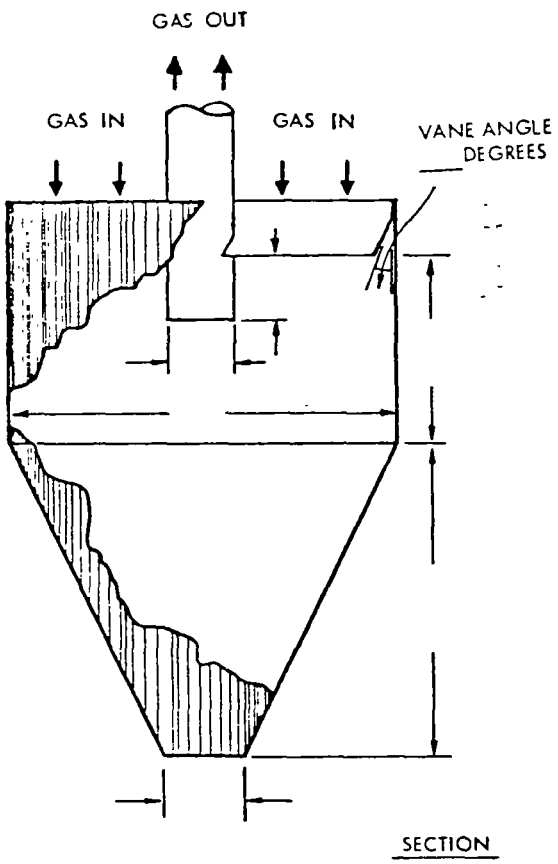
2. MANUFACTURER.	3. MODEL.
4. TYPE OF CYCLONE: ☐ SIMPLE ☐ MULTIPLE	5. NUMBER OF CYCLONES IN EACH MULTIPLE CYCLONE.

6. DIMENSION THE APPROPRIATE SKETCH (IN INCHES) OR PROVIDE A DRAWING WITH EQUIVALENT INFORMATION:

TANGENTIAL INLET CYCLONE



AXIAL INLET CYCLONE
(INDIVIDUAL CYCLONE OF MULTIPLE CYCLONE)



NOT TO SCALE

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
7. GAS FLOW RATE: SCFM	9. GAS FLOW RATE: SCFM
8. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): %	10. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): %

1. FLOW DIAGRAM DESIGNATION(S) OF CONDENSER		
2. MANUFACTURER	3. MODEL NAME AND NUMBER	4. HEAT EXCHANGE AREA FT^2

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
5. COOLANT FLOW RATE PER CONDENSER: WATER ____ GPM AIR ____ SCFM; OTHER TYPE ____, FLOW RATE ____	10. COOLANT FLOW RATE PER CONDENSER WATER ____ GPM AIR ____ SCFM; OTHER: TYPE ____, FLOW RATE ____
6. GAS FLOW RATE. SCFM	11. GAS FLOW RATE: SCFM
7. COOLANT TEMPERATURE. INLET ___ °F OUTLET ___ °F	12. COOLANT TEMPERATURE. INLET ___ °F OUTLET ___ °F
8. GAS TEMPERATURE. INLET ___ °F OUTLET ___ °F	13. GAS TEMPERATURE. INLET ___ °F OUTLET ___ °F
9. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4). %	14. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4): %

*ELECTRICAL PRECIPITATOR	
1. FLOW DIAGRAM DESIGNATION OF ELECTRICAL PRECIPITATOR:	
2. MANUFACTURER:	3. MODEL NAME AND NUMBER:
4. COLLECTING ELECTRODE AREA PER CONTROL DEVICE: FT^2	
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
5. GAS FLOW RATE: SCFM	7. GAS FLOW RATE: SCFM
6. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4): %	8. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4): %
SUBMIT THE MANUFACTURER'S SPECIFICATIONS FOR THE ELECTRICAL PRECIPITATOR. REFERENCE THE INFORMATION TO THIS FORM.	

*ELECTRICAL PRECIPITATORS VARY GREATLY IN THEIR DESIGN AND IN THEIR COMPLEXITY. THE ITEMS IN THIS SECTION PROVIDE A MINIMUM AMOUNT OF INFORMATION. THE APPLICANT MUST, HOWEVER, SUBMIT WITH THIS APPLICATION THE MANUFACTURER'S SPECIFICATIONS, INCLUDING ANY DRAWINGS, TECHNICAL DOCUMENTS, ETC. IF THE INFORMATION PROVIDED BY THE MANUFACTURER'S SPECIFICATIONS IS INSUFFICIENT FOR FULL AND ACCURATE ANALYSIS, THE AGENCY WILL REQUEST SPECIFIC ADDITIONAL INFORMATION.

FILTER UNIT	
1. FLOW DIAGRAM DESIGNATION(S) OF FILTER UNIT: SEE "OTHER TYPE OF CONTROL EQUIPMENT"	
2. MANUFACTURER: STERNVENT CO., INC.	3. MODEL NAME AND NUMBER: NO. DE 152 DUST COLLECTOR
4. FILTERING MATERIAL: COTTON SATEEN	5. FILTERING AREA: 150 SQ FT.
6. CLEANING METHOD: ☒ SHAKER ☐ REVERSE AIR ☐ PULSE AIR ☐ PULSE JET ☐ OTHER: SPECIFY ____	
7. GAS COOLING METHOD: ☐ DUCTWORK. LENGTH ____ FT., DIAM ____ IN. ☐ BLEED-IN AIR ☐ WATER SPRAY ☐ OTHER SPECIFY	
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. GAS FLOW RATE (FROM SOURCE): SCFM	12. GAS FLOW RATE (FROM SOURCE): SCFM
9. GAS COOLING FLOW RATE: BLEED-IN AIR ____ SCFM, WATER SPRAY ____ GPM	13. GAS COOLING FLOW RATE: BLEED-IN AIR ____ SCFM, WATER SPRAY ____ GPM
10. INLET GAS CONDITION: TEMPERATURE ____ °F DEWPOINT ____ °F	14. INLET GAS CONDITION: TEMPERATURE ____ °F DEWPOINT ____ °F
11. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): %	15. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): %

SCRUBBER

1. FLOW DIAGRAM DESIGNATION(S) OF SCRUBBER

2. MANUFACTURER	3. MODEL NAME AND NUMBER

4. TYPE OF SCRUBBER:

☐ HIGH ENERGY· GAS STREAM PRESSURE DROP _____ INCH H_2O

☐ PACKED. PACKING TYPE _____, PACKING SIZE _____, PACKED HEIGHT _____ IN.

☐ SPRAY NUMBER OF NOZZLES _____, NOZZLE PRESSURE _____ PSIG

☐ OTHER SPECIFY _____ ATTACH DESCRIPTION AND SKETCH WITH DIMENSIONS

5. TYPE OF FLOW.

☐ COCURRENT ☐ COUNTERCURRENT ☐ CROSSFLOW

6. SCRUBBER GEOMETRY:

LENGTH IN DIRECTION OF GAS FLOW _____ IN., CROSS-SECTIONAL AREA _____ SQUARE IN.

7. CHEMICAL COMPOSITION OF SCRUBBANT:

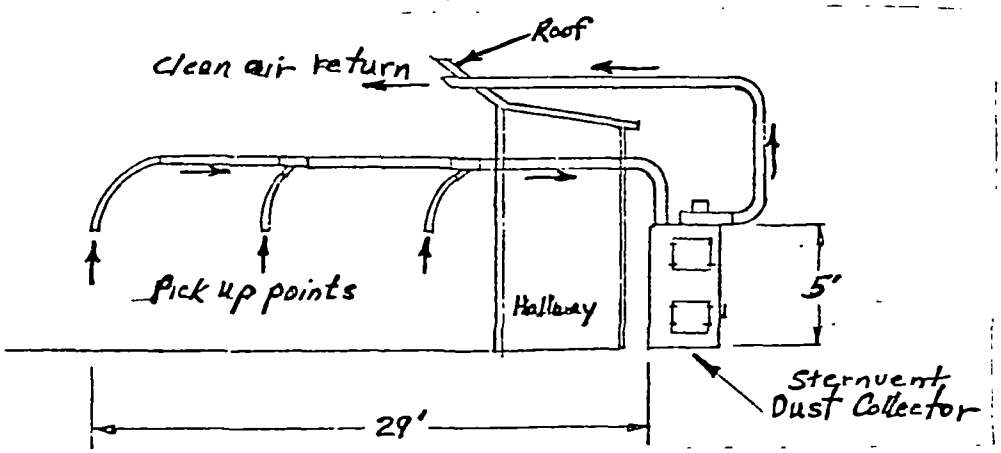
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. SCRUBBANT FLOW RATE: GPM	12. SCRUBBANT FLOW RATE: GPM
9. GAS FLOW RATE: SCFM	13. GAS FLOW RATE: SCFM
10. INLET GAS TEMPERATURE: °F	14. INLET GAS TEMPERATURE: °F
11. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____ % PARTICULATE _____ % GASEOUS	15. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____ % PARTICULATE _____ % GASEOUS

OTHER TYPE OF CONTROL EQUIPMENT

1. FLOW DIAGRAM DESIGNATION(S) OF "OTHER TYPE" OF CONTROL EQUIPMENT: SEE ATTACHMENTS A & B

2. GENERIC NAME OF "OTHER" EQUIPMENT:	3. MANUFACTURER:	4. MODEL NAME AND NUMBER:
	STERNVENT CO., INC	# DE 152

5. DESCRIPTION AND SKETCH, WITH DIMENSIONS AND FLOW RATES, OF "OTHER" EQUIPMENT:



AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
6. FLOW RATES: _____ GPM 600 SCFM	8. FLOW RATES: GPM 1050 SCFM
7. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4): %	9. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4) %

EMISSION INFORMATION

1. NUMBER OF IDENTICAL CONTROL UNITS OR CONTROL SYSTEMS (DESCRIBE AS REQUIRED).
ONE (1)

AVERAGE OPERATION OF SOURCE

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	2a. – GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	3a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	4a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	5a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	6a. PPM (VOL)	b. LB/HR	c.
OTHER (SPECIFY) AN PROPELLANT	7a. PPM (VOL)	b. 1.54 LB/HR	c. SEE ATTACHMENT "C"

MAXIMUM OPERATION OF SOURCE

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	8a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	9a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	10a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	11a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	12a. PPM (VOL)	b. LB/HR	c.
OTHER (SPECIFY) AN PROPELLANT	13a. PPM (VOL)	b. 1.76 LB/HR	c. SEE ATTACHMENT "C"

**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

EXHAUST POINT INFORMATION

1. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:
SEE "OTHER TYPE OF CONTROL EQUIPMENT" STEP 15), PAGE 5

2. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):
AIR IS FILTERED AND RETURNED TO THE WORKING AREA.

3. EXIT HEIGHT ABOVE GRADE: FT	4. EXIT DIAMETER: 10" x 8"
5. GREASTEST HEIGHT OF NEARBY BUILDINGS: FT	6. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: FT
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
7. EXIT GAS TEMPERATURE: °F	9. EXIT GAS TEMPERATURE: °F
8. GAS FLOW RATE THROUGH EACH EXIT: ACFM	10. GAS FLOW RATE THROUGH EACH EXIT: ACFM

IT IS IMPERATIVE THAT THESE INSTRUCTIONS BE THOROUGHLY READ BY BOTH THE INSTALLER AND THE OPERATOR OF THIS EQUIPMENT.

BASIC FACTS

Sternvent cabinet dust arresters, D series are self-contained, compact filter bag collectors, requiring a minimum of floor space. A proven, widely used method of dust collection, they are especially suited for industry, schools, and maintenance facilities, where saving space and easy maintenance are important considerations.

Standard filter media is cotton sateen with optional materials available to suit particular applications. The filter bags are envelope shaped.

The Sternvent D series arresters are available in 4 types; DG, DS, DE & DC with various cabinet styles (see illustrations on opposite page). Information in this manual applies to all types and styles, but concentrates primarily on the basic unit with drawer, with necessary differences noted.

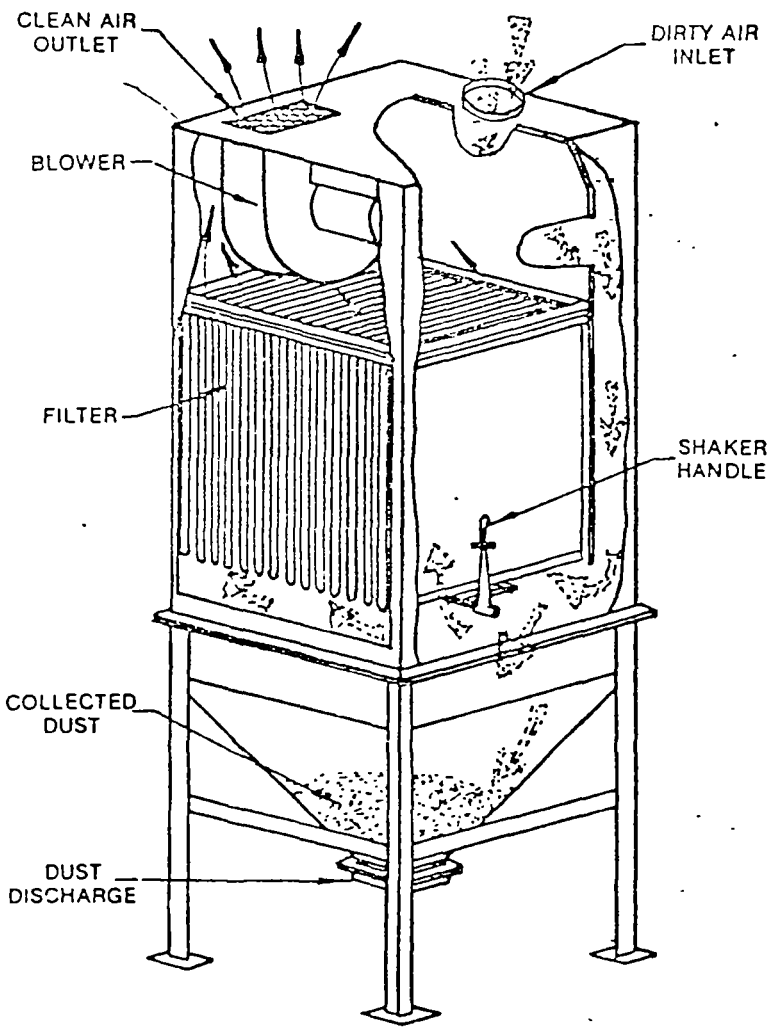
OPERATIONAL EXPLANATION

Dust laden air is directed around the baffled inlet, causing the heavier particles to be diverted out of the airstream. (This greatly reduces the dust load on the filters, permitting more effective use of the filter area and longer intervals between shaking.) The blower then pulls the air up through the filter bags. Finer dust particles are trapped on the exterior surface of the filter forming a slight cake of dust. This increases the cleaning efficiency of the unit by preventing even extremely fine particles from passing through the collector. The cake takes a few hours to a few days to develop depending on usage.

Periodically the filters must be shaken to remove the excess buildup. The dust that is dislodged from the bags is collected in the dust drawer, bin or hopper. See Fig. 2

PRE-INSTALLATION

The Sternvent Cabinet Dust Arrester should be located with consideration for maintenance, inspection, shortest run for location of duct and electrical work and access for emptying drawer (hopper or bin).

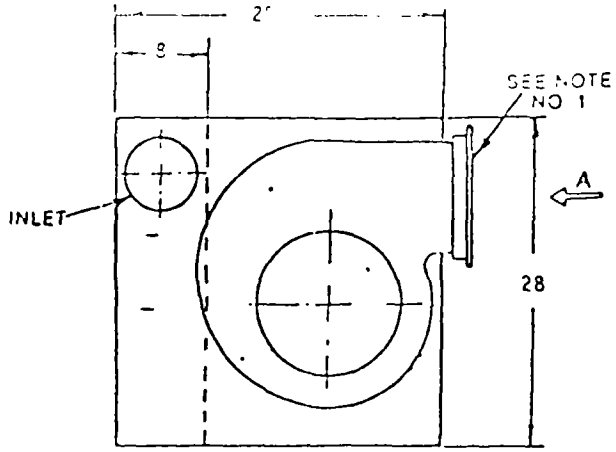


OPERATIONAL CROSS SECTION VIEW OF MODEL DGH 305

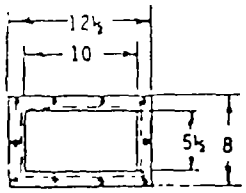
FIG. 2

001578 Attachment "A"

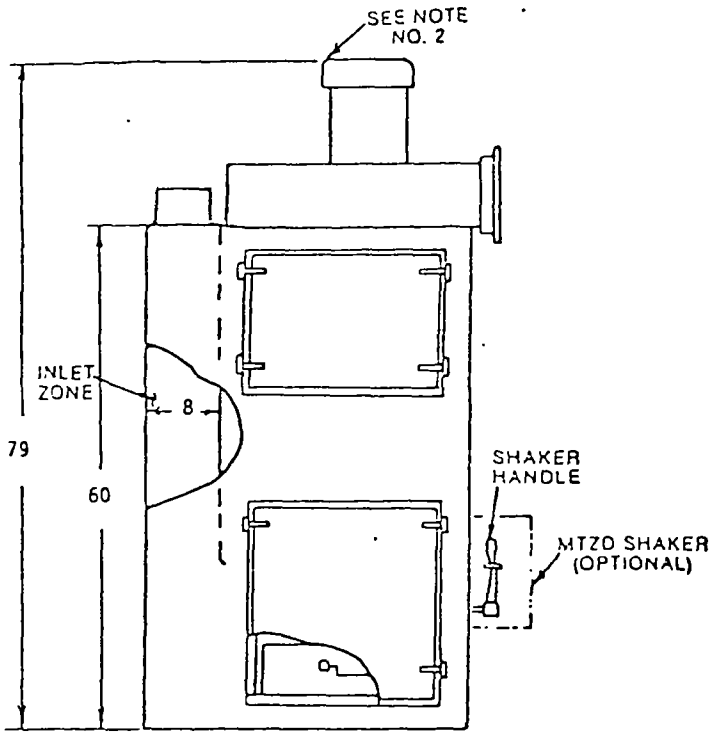
JOB NO.



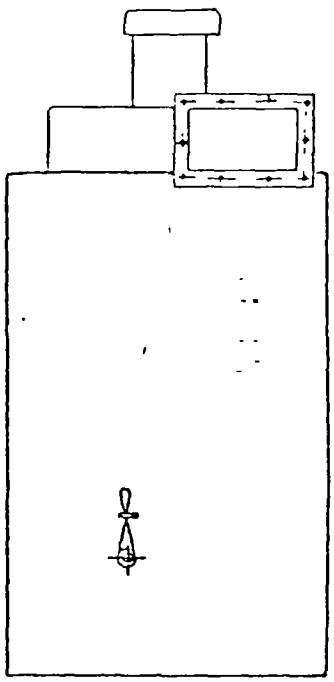
TOP VIEW



VIEW-A



FRONT VIEW



SIDE VIEW

MODIFICATIONS:

MULTIPLE RATING TABLES

MODEL DE 152

2 HP	CFM	EXT. S.P.	A/C RATIO	ΔP* FILT
INLET 6" DIA	1050	5.0	3.0:1	2.0
	1000	6.0	7.0:1	1.5
	900	6.7	6.0:1	1.0

SHIPPING WEIGHT 450 LBS.

MODEL

HP	CFM	SP	A/C RATIO	ΔP FILT.
INLET				

MODEL

HP	CFM	SP	A/C RATIO	ΔP FILT
INLET				

NOTES

1. FOR OTHER BLOWER ARR. SEE DRAWING NO 1200
2. 6 " CLEARANCE REQUIRED ABOVE MOTOR
3. THIS DRAWING NOT CERTIFIED FOR CONSTRUCTION UNLESS SIGNED BY STERNVENT ENGINEERING DEPT.

CERTIFIED .... DATE_____

SPECIFICATION

1. MOTOR 3450 RPM, 230/460V, 3PH, 60HZ TEFC
2. FILTER AREA: 150 SQ. FT.
3. FILTER MEDIA. COTTON SATEEN SET OF 15-25X32
4. DUST DRAWER: 16 CU.FT.
5. STD. CONSTRUCTION: 14 GA MS
6. STD FINISH RED OXIDE PRIMER & EXTERIOR ONE COAT GRAY ENAMEL

*Pressure drop through clean filters (Inches W G)

OPTIONS

1. SILENCER (DWG 148) ☐
2. MOTORIZED SHAKER (DWG 115) ☐
3. SPECIAL FILTER MEDIA ☐
4. SINGLE PHASE TO 7.5 HP ☐
5. SPECIAL PAINT ☐
6. EXPLOSION RELIEF DOOR ☐
7. DISCHARGE ELBOW ☐

STERNVENT CO. INC.
BROOKLYN, N.Y. 11231

SPECIFICATION DRAWING
SERIES D150
DUST COLLECTOR

DWN	STYLE E
REV A	DRWG NO 10308

001579

Attachment "B"

METHOD USED TO DETERMINE EMISSION RATE

AVERAGE RATE

700 GRAINS MACHINED PER MONTH
6.4 GRAINS MACHINED PER HOUR
145 GRAMS WASTE PER GRAIN
2.06 lbs. PER HOUR WASTE GENERATED
1.54 lbs. — 75% OF WASTE PICKED UP BY DUST COLLECTOR

MAXIMUM RATE

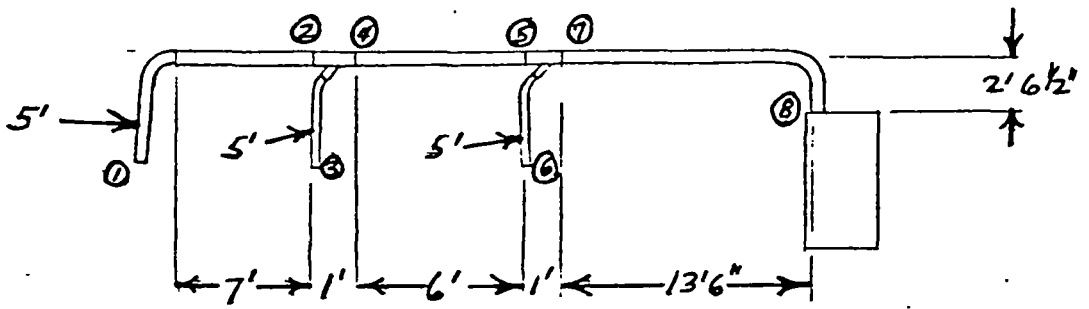
800 GRAINS MACHINED PER MONTH
7.35 GRAINS MACHINED PER HOUR
145 GRAMS WASTE PER GRAIN
2.35 lbs. PER HOUR WASTE GENERATED
1.76 lbs. —— 75% OF WASTE PICKED UP By DUST COLLECTOR.

217 785 1713
MANGU

Attachment - "C"

PROJECT Sidewinder - M. Product Dust Collector

			BRANCH ① – ② DATA	BRANCH ① – ② SP	BRANCH ③ – ④ DATA	BRANCH ③ – ④ SP	BRANCH DATA
o Balance at Point (no.)		i					
ressure to balance	SP IN. WG.	1			1 3.0		1
esign cfm (Notes on Back)	CFM	2	300		2 350		2
uct Diameter or Size	IN.	3	3.5		3 3.5		3
riction Loss Per 100 Ft.	IN. WG.	4	10.31		4 13.82		4
uct Area	SQ. FT.	5	.0668		5 .0668		5
uct Velocity	FPM	6	4491		6 5239		6
If Slot Hood:							
Slot Area Sq. Ft.		7			7		7
Slot Velocity fpm		8			8		8
Slot VP in. W.G.		9			9		9
1.78 x Slot VP		a		.	a	.	a
uct Velocity Pressure	IN. WG.	10	1.26		10 1.71		10
nter Larger of 9 or 10		b		1.26	b	1.71	b
ood Entry Loss Factor	F	11	.13		11 .13		11
ood Entry Loss (10 x 11)		c		.16	c	.22	c
ood Suction (a + b + c)	IN. WG.	12			12		12
o. of 90° Elbows	N	13	1		13		13
lbow Loss Factor	F	14	.27		14		14
lbow Loss (13 x 14 x 10)	IN. WG.	d		.34	d		d
ranch Entry Factor	F	15			15 .18		15
ranch Entry Loss (15 x 10)	IN. WG.	e			e	.31	e
ength Straight Duct	FT	16	12		16 5'		16
riction Loss (16 x 4)/100	IN. WG.	f			f	.69	f
ther Losses (Expansion, Contraction, Etc. Calc. Below)	IN. WG.	g		1.24	g		g
P_s at Point (a thru q)	IN. WG.	h	Total 3.00		h Total	2.93	h To
P_a for Non-Std. Air:							
Density Factor	D.F.	17			17		17
SP_a (h x 17)	IN. WG.	i			i		i
orrect cfm to Balance							
New cfm = (2) $\sqrt{(1)/(h)}$*							
* Use i if Non-Std.	CFM	18			18		18
			CFM		CFM		CFM
			SP		SP		SP
			Pt.		Pt.		Pt.



001581 Calc Form "I"

PROJECT _____

			MAIN ④ - ⑤ DATA	MAIN ④ - ⑤ SP	MAIN ⑦ - ⑧ DATA	MAIN ⑦ - ⑧ SP	MAIN DATA
P_a carried over from point No.							
P_a carried over		a		3.00		3.35	a
Design cfm	CFM	1	650		1025		1
Duct Diameter or size	IN.	2	5		6		2
Friction Loss per 100 ft.	IN. WG.	3	7.47		7.11		3
Duct area	SQ. FT.	4	.1364		.1964		4
Duct velocity	FPM	5	4765		5219		5
Duct VP	IN. WG.	6	1.42		1.70		6
Change in VP (Calc below)	IN. WG.	b		-.06		.80	b
No. 90° elbows	N	7			1		7
Elbow loss factor	F	8			.27		8
Elbow loss (6 x 7 x 8)		c		.		.46	c
Length straight duct	FT.	9	6		13.5		9
Friction Loss (3 x 9)/100		d		.45		.96	d
Other losses or regain (Expansion, Contraction, Branch entry into larger main, etc.)		e		.		.	e
SP_s for run (b + c + d + e)		f	Total	3.39	Total	5.57	f Total
If Non-std. air:							
Density factor	DF	10					10
SP_a (f x 10)		g		.		.	g
P_a at Point							
(Add a to f for std.)		h		.		.	h
(Add a to g for non-std.)		i		.		.	i
			CFM _____ SP _____ Pt. _____		CFM _____ SP _____ Pt. _____		CFM _____ SP _____ Pt. _____

Change in VP = $\left(\frac{Q_1+Q_2}{4005}/\frac{A_1+A_2}{4005}\right)^2 = \left(\frac{300+350}{.0668+.0668}\right)^2 = 1.48$

= VP − VP₁ = 1.42 − 1.48 = −.06

Change in VP = $\left(\frac{300+350+375}{4005}/\frac{.0668+.0668+.1364}{4005}\right)^2 = .90$

= 1.70 − .90 = .80

PROJECT

			BRANCH ⑥ - ⑦ DATA	BRANCH ⑥ - ⑦ SP	BRANCH DATA	BRANCH SP	BRANCH DAT
Balance at Point (no.)							
Pressure to balance	SP IN. WG.	1	3.39		1		1
Design cfm (Notes on Back)	CFM	2	375		2		2
Duct Diameter or Size	IN.	3	3.5		3		3
Friction Loss Per 100 Ft.	IN. WG.	4	15.76		4		4
Duct Area	SQ. FT.	5	.0668		5		5
Duct Velocity	FPM	6	5614		6		6
If Slot Hood:							
Slot Area Sq. Ft.		7			7		7
Slot Velocity fpm		8			8		8
Slot VP in. W.G.		9			9		9
1.78 x Slot VP		a			a		a
Duct Velocity Pressure	IN. WG.	10	1.96		10		10
Enter Larger of 9 or 10		b		1.96	b		b
Hood Entry Loss Factor	F	11	.13		11		11
Hood Entry Loss (10 x 11)		c		.26	c		c
Hood Suction (a + b + c)	IN. WG.	12			12		12
No. of 90° Elbows	N	13			13		13
Elbow Loss Factor	F	14			14		14
Elbow Loss (13 x 14 x 10)	IN. WG.	d			d		d
Branch Entry Factor	F	15	.18		15		15
Branch Entry Loss (15 x 10)	IN. WG.	e		.35	e		e
Length Straight Duct	FT	16	5		16		16
Friction Loss (16 x 4)/100	IN. WG.	f		.78	f		f
Other Losses (Expansion, Contraction, Etc. Calc. Below)	IN. WG.	g			g		g
Loss at Point (a thru g)	IN. WG.	h	Total	3.35	h Total		h To
Sa for Non-Std. Air:							
Density Factor	D.F.	17			17		17
SP_a (h x 17)	IN. WG.	i			i		i
Correct cfm to Balance: New cfm = (2) $\sqrt{\frac{(1)}{(h)^*}}$ * Use i if Non-Std.	CFM	18			18		18
			CFM		CFM		CFM
			SP		SP		SP
			Pt.		Pt.		Pt.

Form T-12 Rev 1 6/75

001583

Calc Form "3"

Illinois Environmental Protection Agency 2200 Churchill Road Springfield IL 62706

217/782-2113

JOINT CONSTRUCTION AND OPERATING PERMIT

PERMITTEE

Olin Corporation
Attention: Arthur Heinz
P. O. Box 278
Marion, Illinois 62959

Application No.: 88020082 I.D. No.: 199862AAB
Applicant's Designation: F-2-11-88 Date Received: February 26, 1988
Subject: Composite Cure & Composite Sawing & Machining
Date Issued: March 23, 1988 Operating Permit Expiration Date: March 18, 1993
Location: Crab Orchard Wildlife Refuge, (Rural) Marion

Permit is hereby granted to the above-designated Permittee to CONSTRUCT and OPERATE emission source(s) and/or air pollution control equipment consisting of band saw, compact belt sander, variable speed hand grinder, pneumatic multi-angle belt sander with supertron hybrid dust collector, bulk oven and compression mold as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Operation of the emission source(s) included in this permit shall not begin until all associated air pollution control equipment has been constructed and is operational.

2. This permit is issued based upon a minimal hourly emission rate and negligible annual emissions (less than 0.1 ton/year) of particulate matter from band saw, compact belt sander, variable speed hand grinder and multi-angle belt sander.

3. This permit is issued based upon a minimal hourly emission rate and negligible annual emissions (less than 0.1 ton/year) of organic material from bulk oven and compression mold.

Terry A. Sweitzer, P.E.
Manager, Permit Section
Division of Air Pollution Control

TAS:SRS:ds:4720H/30

cc: Region 3

RECEIVED
MAR 30 1988
001584
J. SCHNEIDERMAN

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) authorizes the Environmental Protection Agency to impose conditions on permits which it issues.

The following conditions are applicable unless susperseded by special condition(s).

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year from the date of issuance, unless a continuous program of construction or development on this project has started by such time.

2. The construction or development covered by this permit shall be done in compliance with applicable provisions of the Illinois Environmental Protection Act and Regulations adopted by the Illinois Pollution Control Board.

3. There shall be no deviations from the approved plans and specifications unless a written request for modification, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.

4. The permittee shall allow any duly authorized agent of the Agency upon the presentation of credentials, at reasonable times:

   a. to enter the permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,

   b. to have access to and to copy any records required to be kept under the terms and conditions of this permit,

   c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,

   d. to obtain and remove samples of any discharge or emissions of pollutants, and

   e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located,

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities,

   c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations,

   d. does not take into consideration or attest to the structural stability of any units or parts of the project, and

e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. a. Unless a joint construction/operation permit has been issued, a permit for operation shall be obtained from the Agency before the equipment covered by this permit is placed into operation.

   b. For purposes of shakedown and testing, unless otherwise specified by a special permit condition, the equipment covered under this permit may be operated for a period not to exceed thirty (30) days.

7. The Agency may file a complaint with the Board for modification, suspension or revocation of a permit:

   a. upon discovery that the permit application contained misrepresentations, misinformation or false statements or that all relevant facts were not disclosed, or

   b. upon finding that any standard or special conditions have been violated, or

   c. upon any violations of the Environmental Protection Act or any regulation effective thereunder as a result of the construction or development authorized by this permit.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR OPERATING PERMITS

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special permit condition(s).

1. The issuance of this permit does not release the permittee from compliance with state and federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or with applicable local laws, ordinances and regulations.

2. The Agency has issued this permit based upon the information submitted by the permittee in the permit application. Any misinformation, false statement or mispresentation in the application shall be grounds for revocation under 35 Ill. Adm. Code 201.207.

3. a. The permittee shall not authorize, cause, direct or allow any modification, as defined in 35 Ill. Adm. Code 201.102, of equipment, operations or practices which are reflected in the permit application as submitted unless a new application or request for revision of the existing permit is filed with the Agency and unless a new permit or revision of the existing permit(s) is issued for such modification.

   b. This permit only covers emission sources and control equipment while physically present at the indicated plant location(s). Unless the permit specifically provides for equipment relocation, this permit is void for an item of equipment on the day it is removed from the permitted location(s) or if all equipment is removed, notwithstanding the expiration date specified on the permit.

4. The permittee shall allow any duly authorized agent of the Agency, upon the presentation of credentials, at reasonable times:

   a. to enter the permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,

   b. to have access to and to copy any records required to be kept under the terms and conditions of this permit,

   c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,

   d. to obtain and remove samples of any discharge or emission of pollutants, and

   e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring or recording any activity, discharge or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are located,

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the facilities,

c does not take into consideration or attest to the structural stability of any unit or part of the project, and

d. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. The facilities covered by this permit shall be operated in such a manner that the disposal of air contaminants collected by the equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

7. The permittee shall maintain all equipment covered under this permit in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

8. The permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment. This record shall be made available to any agent of the Environmental Protection Agency at any time during normal working hours and/or operating hours. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9. No person shall cause or allow continued operation during malfunction, breakdown or startup of any emission source or related air pollution control equipment if such operation would cause a violation of an applicable emission standard or permit limitation. Should a malfunction, breakdown or startup occur which results in emissions in excess of any applicable standard or permit limitation, the permittee shall:

   a. immediately report the incident to the Agency's Regional Field Operations Section Office by telephone, telegraph, or other method as constitutes the fastest available alternative, and shall comply with all reasonable directives of the Agency with respect to the incident;

   b. maintain the following records for a period of no less than two (2) years:

      i. date and duration of malfunction, breakdown or startup,

      ii. full and detailed explanation of the cause,

      iii. contaminants emitted and an estimate of quantity of emissions,

      iv. measures taken to minimize the amount of emissions during the malfunction, breakdown or startup, and

      v. measures taken to reduce future occurrences and frequency of incidents.

10. If the permit application contains a compliance program and project completion schedule, the permittee shall submit a project completion status report within thirty (30) days of any date specified in the compliance program and project completion schedule or at six month intervals, whichever is more frequent.

11. Beginning one year from the date of this permit the permittee shall submit an "Annual Emission Report," form APC-208, as required by 35 Ill. Adm. Code 201.302. (Note: If the permittee has other operating permits for this facility, the "Annual Emission Report" for all such permits may be included in a single annual submission.)

Olin
ORDNANCE

MARION OPERATIONS

February 22, 1988

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Attention: Mr. Terry A. Sweitzer, P.E.

Regarding: Request for Permit
Olin Corp. ID. NO. 199862AAB
F-2-11-88 Composite Cure/Composite Sawing & Machining

Dear Mr. Sweitzer:

In compliance with Title 35: Environmental Protection, Subtitle B: Air Pollution, Chapter I; Pollution Control Board, Part 201, enclosed herewith, are provided three copies of a Construction and Operating Permit Application for the construction and operation of a composite cure operation and a cured composite sawing and machining operation in the area Olin Corporation designates as the F Area. The application has been designated as "F-2-11-88".

If additional information or clarification is needed, please contact the undersigned.

Very truly yours,

Arthur Heinz, Jr.
Director

Enclosure

AH:jms/kc

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979, Chapter 111 1/2, Section 1019. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

APPLICATION FOR A PERMIT (A)
☒ CONSTRUCT ☒ OPERATE

NAME OF EQUIPMENT TO BE CONSTRUCTED OR OPERATED: Composite Cure And Composite Sawing And Machining (B)

FOR AGENCY USE ONLY
I. D. NO.
PERMIT NO.
DATE

1a. NAME OF OWNER: Olin Corporation		2a. NAME OF OPERATOR: Olin Corporation	
1b. STREET ADDRESS OF OWNER: P. O. Box 278		2b. STREET ADDRESS OF OPERATOR: P. O. Box 278	
1c. CITY OF OWNER: Marion		2c. CITY OF OPERATOR: Marion	
1d. STATE OF OWNER: Illinois	1e. ZIP CODE: 62959	2d. STATE OF OPERATOR: Illinois	2e. ZIP CODE: 62959

3a. NAME OF CORPORATE DIVISION OR PLANT: Marion Operations		3b. STREET ADDRESS OF EMISSION SOURCE: Crab Orchard Wildlife Refuge		
3c. CITY OF EMISSION SOURCE: (Rural) Marion	3d. LOCATED WITHIN CITY LIMITS. ☐ YES ☒ NO	3e. TOWNSHIP: N/A	3f. COUNTY: Williamson	3g. ZIP CODE: 62959

4. ALL CORRESPONDENCE TO: (TITLE AND/OR NAME OF INDIVIDUAL) Arthur Heinz, Jr., Director	5. TELEPHONE NUMBER FOR AGENCY TO CALL: (618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) ☒ OWNER: ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR DESIGNATION FOR THIS APPLICATION: (C) F - 2 - 1 1 - 8 8

8. THE UNDERSIGNED HEREBY MAKES APPLICATION FOR A PERMIT AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. BY AFFIXING HIS SIGNATURE HERETO HE FURTHER CERTIFIES THAT HE IS AUTHORIZED TO EXECUTE THIS APPLICATION.

AUTHORIZED SIGNATURE(S): (D)

BY Arthur Heinz, Jr. 2/23/88
SIGNATURE DATE

Arthur Heinz, Jr.
TYPED OR PRINTED NAME OF SIGNER

Director
TITLE OF SIGNER

BY _____ _____
SIGNATURE DATE

TYPED OR PRINTED NAME OF SIGNER

TITLE OF SIGNER

(A) THIS FORM IS TO PROVIDE THE AGENCY WITH GENERAL INFORMATION ABOUT THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS FORM MAY ONLY BE USED TO REQUEST ONE TYPE OF PERMIT - CONSTRUCTION OR OPERATION - AND NOT BOTH.

(B) ENTER THE GENERIC NAME OF THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS NAME WILL APPEAR ON THE PERMIT WHICH MAY BE ISSUED PURSUANT TO THIS APPLICATION. THIS FORM MUST BE ACCOMPANIED BY OTHER APPLICABLE FORMS AND INFORMATION.

(C) PROVIDE A DESIGNATION IN ITEM 7 ABOVE WHICH YOU WOULD LIKE THE AGENCY TO USE FOR IDENTIFICATION OF YOUR EQUIPMENT. YOUR DESIGNATION WILL BE REFERENCED IN CORRESPONDENCE FROM THIS AGENCY RELATIVE TO THIS APPLICATION. YOUR DESIGNATION MUST NOT EXCEED TEN (10) CHARACTERS.

(D) THIS APPLICATION MUST BE SIGNED IN ACCORDANCE WITH PCB REGS., CHAPTER 2, PART 1, RULE 103(a)(4) OR 103(b)(5) WHICH STATES: "ALL APPLICATIONS AND SUPPLEMENTS THERETO SHALL BE SIGNED BY THE OWNER AND OPERATOR OF THE EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT, OR THEIR AUTHORIZED AGENT, AND SHALL BE ACCOMPANIED BY EVIDENCE OF AUTHORITY TO SIGN THE APPLICATION."

IF THE OWNER OR OPERATOR IS A CORPORATION, SUCH CORPORATION MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF THE CORPORATION'S BOARD OF DIRECTORS AUTHORIZING THE PERSONS SIGNING THIS APPLICATION TO CAUSE OR ALLOW THE CONSTRUCTION OR OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

☐ YES ☐ NO See Page 1 of 44

IF A PLOT PLAN MAP HAS PREVIOUSLY BEEN SUBMITTED, SPECIFY

AGENCY I D. NUMBER _____ APPLICATION NUMBER _____

IS THE APPROXIMATE SIZE OF APPLICANT'S PREMISES LESS THAN 1 ACRE?

☐ YES ☒ NO SPECIFY 200 ACRES

10. DOES THIS APPLICATION CONTAIN A PROCESS FLOW DIAGRAM(S) THAT ACCURATELY AND CLEARLY REPRESENTS CURRENT PRACTICE.

☒ YES ☐ NO

See Pages 5 and 6 of 44

11a. WAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, OWNED OR CONTRACTED FOR, BY THE APPLICANT PRIOR TO APRIL 14, 1972:

☐ YES ☒ NO

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT A, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT WAS IN COMPLIANCE WITH THE RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION PRIOR TO APRIL 14, 1972.

11b. HAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, NOT PREVIOUSLY RECEIVED AN OPERATING PERMIT.

☒ YES ☐ NO See Page 8 of 44

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT B, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT
(i) IS ORIGINAL OR ADDITIONAL EQUIPMENT
(ii) REPLACES EXISTING EQUIPMENT, OR
(iii) MODIFIES EXISTING EQUIPMENT
(c) PROVIDES THE ANTICIPATED OR ACTUAL DATES OF THE COMMENCEMENT OF CONSTRUCTION AND THE START-UP OF THE EQUIPMENT

12. IF THIS APPLICATION INCORPORATES BY REFERENCE A PREVIOUSLY GRANTED PERMIT(S), HAS FORM APC-210, "DATA AND INFORMATION--INCORPORATION BY REFERENCE" BEEN COMPLETED.

☐ YES ☒ NO

APPLICATION FOR OPERATING PERMIT ONLY

13. DOES THE STARTUP OF AN EMISSION SOURCE COVERED BY THIS APPLICATION PRODUCE AIR CONTAMINANT EMISSION IN EXCESS OF APPLICABLE STANDARDS

☐ YES ☒ NO

IF "YES," HAS FORM APC-203, "OPERATION DURING STARTUP" BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

14. DOES THIS APPLICATION REQUEST PERMISSION TO OPERATE AN EMISSION SOURCE DURING MALFUNCTIONS OR BREAKDOWNS

☐ YES ☒ NO

IF "YES," HAS FORM APC-204, "OPERATION DURING MALFUNCTION AND BREAKDOWN" BEEN COMPLETED FOR THIS SOURCE

☐ YES ☐ NO

15. IS AN EMISSION SOURCE COVERED BY THIS APPLICATION SUBJECT TO A FUTURE COMPLIANCE DATE

☐ YES ☒ NO

IF "YES," HAS FORM APC-202, "COMPLIANCE PROGRAM & PROJECT COMPLETION SCHEDULE," BEEN COMPLETED FOR THIS SOURCE

☐ YES ☐ NO

16. DOES THE FACILITY COVERED BY THIS APPLICATION REQUIRE AN EPISODE ACTION PLAN (REFER TO GUIDELINES FOR EPISODE ACTION PLANS)

☐ YES ☒ NO

17. WAS THIS OPERATION THE SUBJECT OF A VARIANCE PETITION FILED WITH THE ILLINOIS POLLUTION CONTROL BOARD ON OR BEFORE JUNE 13, 1972

☐ YES ☒ NO

IF "YES," CITE PCB NUMBER(S) _____, DATE OF BOARD ORDER _____

WAS CONSTRUCTION OR MODIFICATION OF EQUIPMENT, SUFFICIENT TO ACHIEVE COMPLIANCE WITH THE "RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION" EFFECTIVE PRIOR TO APRIL 14, 1972, COMMENCED PRIOR TO APRIL 14, 1972

☐ YES ☒ NO

IF "YES," EXPLAIN IN DETAIL, AND IDENTIFY EXPLANATION AS EXHIBIT D.

18. LIST AND IDENTIFY ALL FORMS, EXHIBITS, AND OTHER INFORMATION SUBMITTED AS PART OF THIS APPLICATION. INCLUDE THE PAGE NUMBERS ON EACH ITEM (ATTACH ADDITIONAL SHEETS IF NECESSARY)

See Page 3 of 44

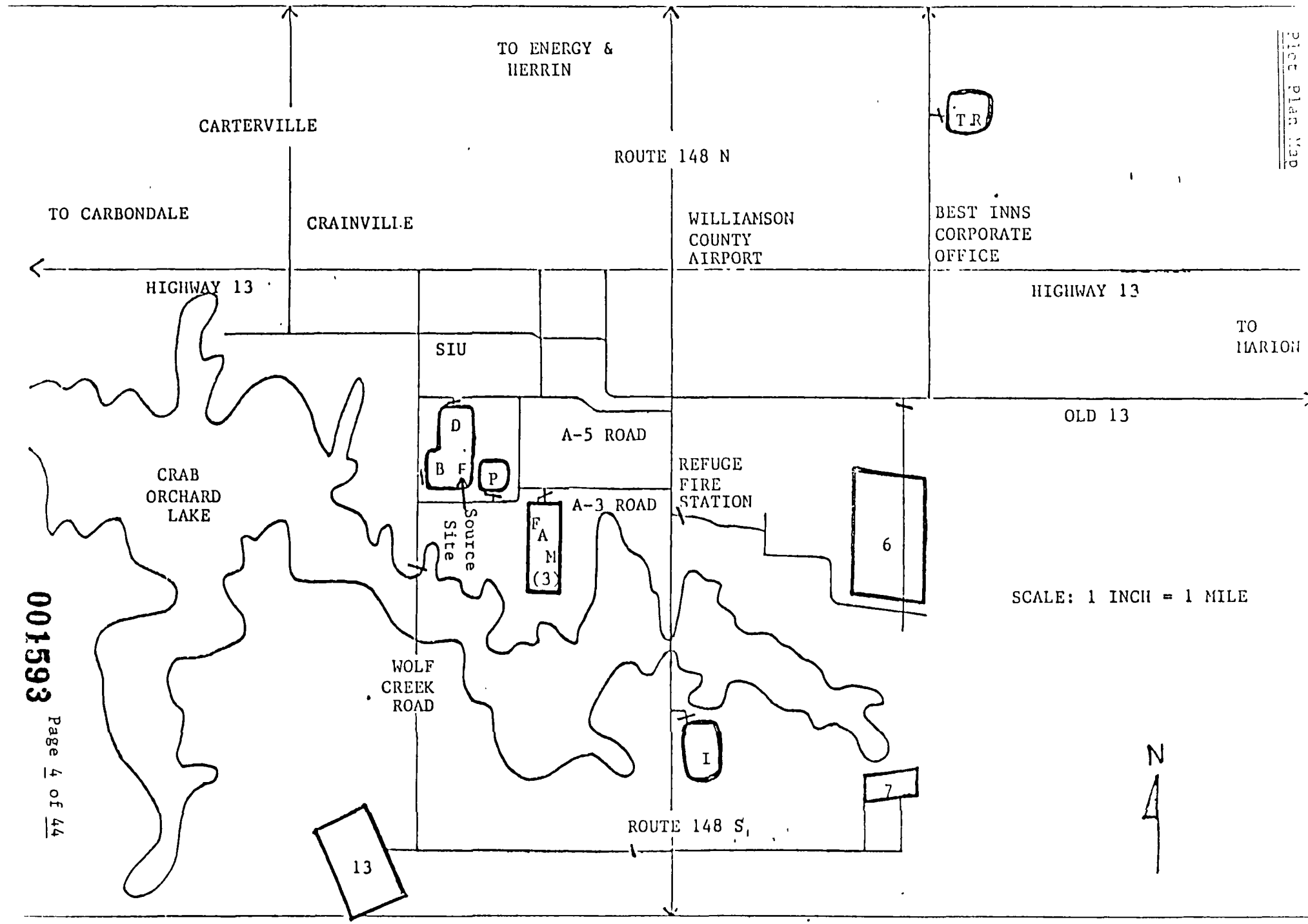
TOTAL NUMBER OF PAGES 44

APC200: ITEM NO. 18

List of Forms/Exhibits/and other information submitted as part of this application

	Page No.
APC 200	1,2
APC 200: Item No. 18	3
Plot Plan/Map	4
Process Flow Diagram (Composite material sawing and Machining)	5
Process Flow Diagram (Composite Material Cure)	6
Flow Diagram of Filter Arrangement of Supertron Hybrid	7
Exhibit B	8
Composite Material Sawing and Machining:	
APC 220 (Band Saw)	9-11
APC 220 (Compact Belt Sander, Type E)	12-14
APC 220 (Variable Speed Hand Grinder)	15-17
APC 220 (Pneumatic Multi-Angle Belt Sander)	18-20
APC 260	21-26
Manufacturer's Data	27-28
APC 103	29-30
Composite Material Cure:	
APC 220 (Bulk Oven)	31-33
APC 220 (Compression Mold)	34-36
MSDS For IM7/8551-7	37-40
Delegation of Authority	41-44

001592



Plot Plan Map

APC200 Construct/Operate Corp., Marion, IL

001593

OLIN CORPORATION

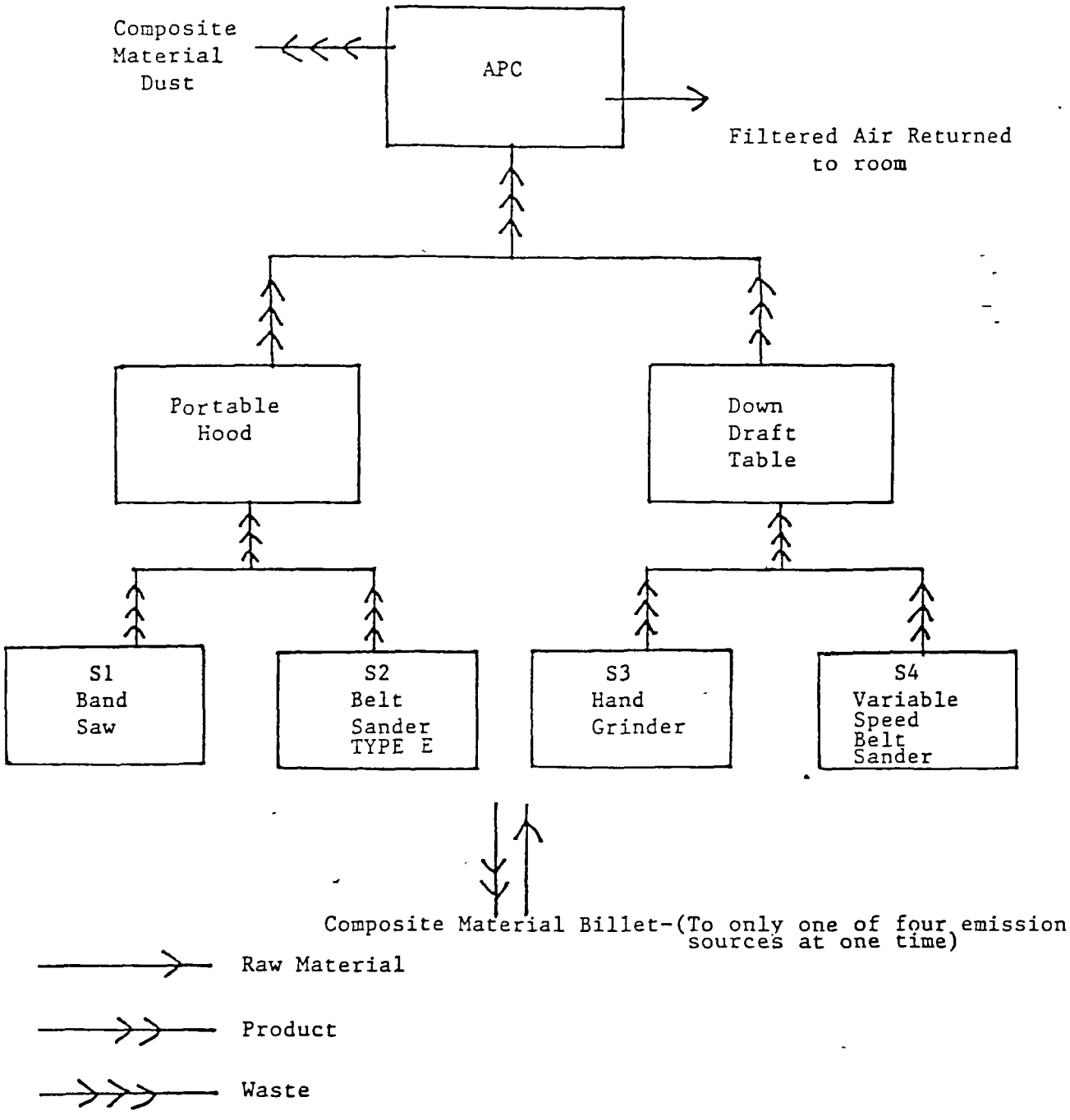
APC200 CONSTRUCT/OPERATE
[illegible] Corp., Marion, IL.

PROCESS FLOW DIAGRAM: COMPOSITE MATERIAL SAWING AND MACHINING

Note: 4 (four) Emission Sources: S1, S2, S3, S4 (Only one in use at any one time)
1 (one) Air Pollution Control Device (Eltron Superton Hybrid): APC

	Ave.	Max.
Inlet/Exit Gas Condition	70°F	70°F
Inlet/Exit Gas Flow Rate	4000 SCFM	4000 SCFM

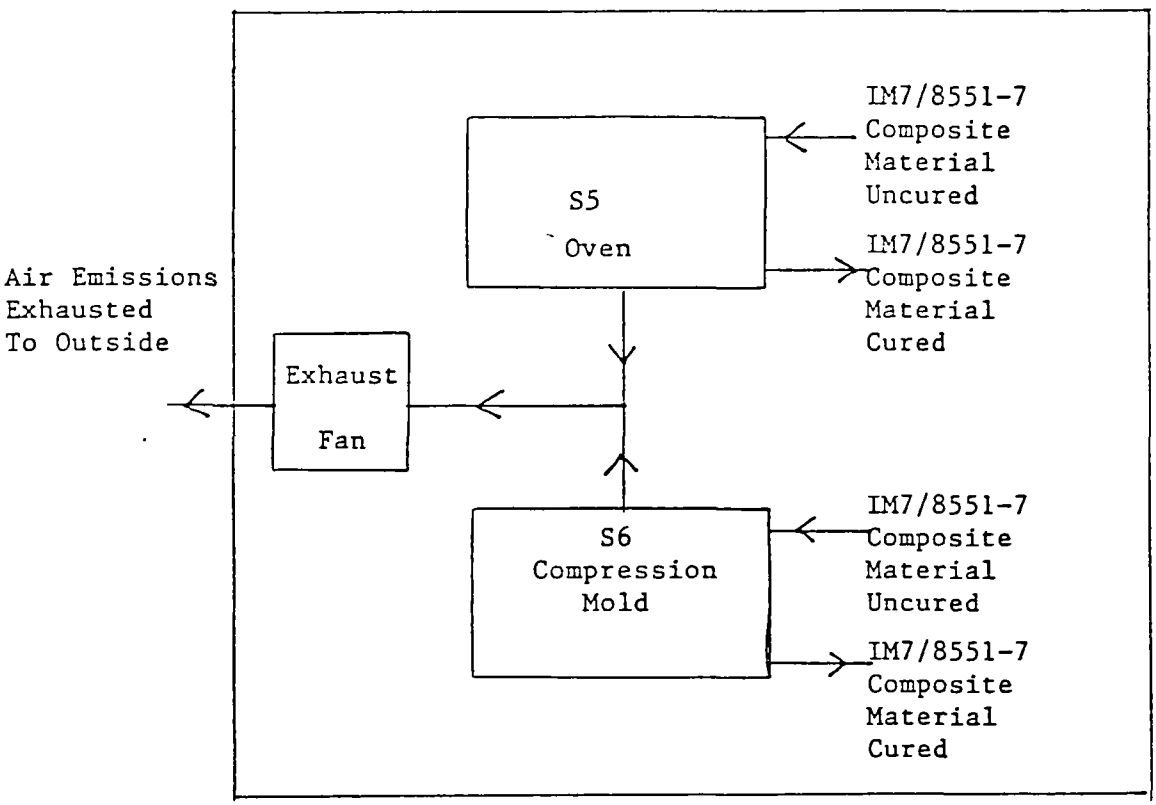
Filter Unit Efficiency: 95%



PROCESS FLOW DIAGRAM: COMPOSITE MATERIAL CURE

2 (two) Emission Sources: S5, S6 (Only one in use at one time)
No Air Pollution Control Device

	Ave.	Max.
Inlet/Exit Gas Condition	70°F (EST.)	70°F (EST.)
Inlet/Exit Gas Flow Rate	1600 SCFM	1600 SCFM

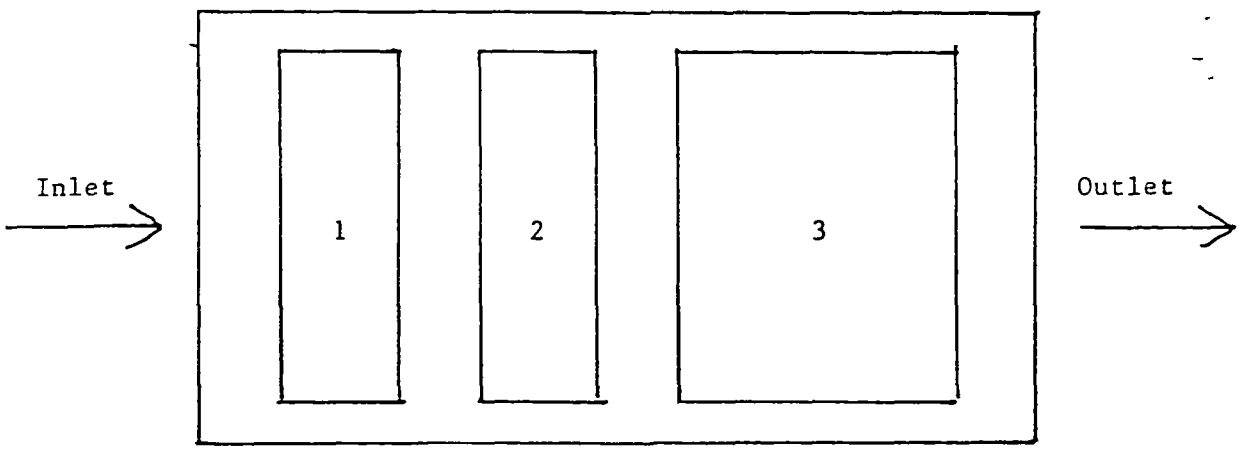


Oven and compression mold will be vented to outside air by exhaust fan.

001595

FLOW DIAGRAM OF FILTER ARRANGEMENT OF SUPERTRON HYBRID

(Air Pollution Control Device)



1. Mechanical Filter
2. Electrostatic Filter
3. Air Handler 4000 CFM

EXHIBIT B

A) Description of Equipment:

Olin maintains a research and development production prototype facility southwest of Marion, Illinois in a rural area. This facility Olin designates as the F Area, is to be used for the study of material processing and structural design.

Two separate operations will occur in this facility; a composite material cure operation where the material is cured in a bulk oven or compression mold and a cured composite material sawing and machining operation.

The composite material cure operation consists of curing the resin and epoxies in a Grieve Corp. bulk oven or compression mold and venting them both to the outside air.

The cured composite material sawing and machining operation consists of using a saw, a grinder, and belt sanders in order to examine and study individual composite billets. A portable hood will be located above the band saw and belt sander, and the hand grinder and variable speed belt sander will be used over a downdraft table. Only one piece of equipment will be operated at one time. Air emissions from the operation will be drawn into air pollution control equipment. The equipment is an Eltron Model EM42-EHTZ Supertron Hybrid dust collector which utilizes a series of filters terminating at an electrostatic precipitator. As air is drawn through the collector, dust will be trapped in the filter, and the filter replaced periodically. Filtered air from the process will be recirculated into the room.

B) Equipment Status:

The Equipment will be new.

C) Anticipated Dates of Commencement of Construction and Start Up of the Equipment:

It is anticipated that construction would commence March 14, 1988, or earlier provided a construction permit is granted. Start up would commence March 31, 1988, or earlier provided an operating permit is granted.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1/2 Section 1009. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION PROCESS EMISSION SOURCE Subsource S1	F-2-11-88 (Feb. 22, 1988) APC200 Construct/Operate Olin Corp., Marion, IL

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER Olin Corporation	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) Marion Operations
3. STREET ADDRESS OF EMISSION SOURCE Crab Orchard Wild Life Refuge	4. CITY OF EMISSION SOURCE (Rural) Marion, Illinois

GENERAL INFORMATION

5. NAME OF PROCESS Composite Material Sawing & Machining	6. NAME OF EMISSION SOURCE EQUIPMENT Band Saw	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER McMaster Carr	8. MODEL NUMBER 4100A13	9. SERIAL NUMBER.

10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE
Process Flow Diagram: Composite Material Sawing & Machining See Page 5 of 44

11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION) N/A

12. AVERAGE OPERATING TIME OF EMISSION SOURCE	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE
0.16 HRS/DAY 1 DAYS/WK 52 WKS/YR	1.0 HRS/DAY 1 DAYS/WK 52 WKS/YR

14. PERCENT OF ANNUAL THROUGHPUT:
DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. IM7/8551-7 Composite Material Billet	b. 50 LB/HR	c. 125 LB/HR
21a. -	b. LB/HR	c. LB/HR
22a. -	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. IM7/8551-7 Composite Material Billet	b. 48.8975 LB/HR	c. 122.24375 LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. IM7/8551-7 Composite Dust	b. 1.1025 LB/HR	c. 2.75625 LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b.	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

See Page 37 of 44 for IM7/8551-7 Composite Material Billet Constituents.

*EMISSION INFORMATION N/A

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED)

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
***"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION N/A

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

66. EXIT HEIGHT ABOVE GRADE:	67. EXIT DIAMETER:
68. GREATEST HEIGHT OF NEARBY BUILDINGS: FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: °F	72. EXIT GAS TEMPERATURE: °F
71. GAS FLOW RATE THROUGH EACH EXIT: ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: ACFM

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001600

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1/2 Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION PROCESS EMISSION SOURCE Subsource 2	F-2-11-88 (Feb. 22, 1988) APC200 Construct/Operate Olin Corp. Marion, IL.

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER Olin Corporation	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) Marion Operations
3. STREET ADDRESS OF EMISSION SOURCE Crab Orchard Wildlife Refuge	4. CITY OF EMISSION SOURCE (Rural) Marion, Illinois

GENERAL INFORMATION		
5. NAME OF PROCESS Composite Material Sawing & Machining	6. NAME OF EMISSION SOURCE EQUIPMENT Compact Belt Sander, Type E	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER McMaster Carr	8. MODEL NUMBER 4729A12	9. SERIAL NUMBER
10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE Process Flow Diagram: Composite Material Sawing & Machining See Page 5 of 44		
11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION) N/A		
12. AVERAGE OPERATING TIME OF EMISSION SOURCE 0.16 HRS/DAY 1 DAYS/WK 52 WKS/YR	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE 1.0 HRS/DAY 1 DAYS/WK 52 WKS/YR	
14. PERCENT OF ANNUAL THROUGHPUT: DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %		

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CEPTAIN OTHEP ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY

AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.

AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.

AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

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MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.

MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. IM7/8551-7 Composite Material Billet	b. 50 LB/HR	c. 100 LB/HR
21a. -	b. LB/HR	c. LB/HR
22a. -	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. IM7/8551-7 Composite Material Billet	b. 49.6472 LB/HR	c. 99.2944 LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. IM7/8551-7 Composite Material Dust	b. 0.3528 LB/HR	c. 0.7056 LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b.	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

See Page 37 of 44 for IM7/8551-7 Composite Material Billet Constituents

*EMISSION INFORMATION N/A

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED)

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION N/A

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

66. EXIT HEIGHT ABOVE GRADE:	67. EXIT DIAMETER:
68. GREATEST HEIGHT OF NEARBY BUILDINGS: FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: °F	72. EXIT GAS TEMPERATURE: °F
71. GAS FLOW RATE THROUGH EACH EXIT: ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this [illegible] Revised Statutes 1979 Chapter 111 1/2 Section 1009. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION PROCESS EMISSION SOURCE Subsource 3	F-2-11-88 (Feb. 22, 1988) APC200 Construct/Operate Olin Corp., Marion, IL.

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1. NAME OF PLANT OWNER Olin Corporation	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) Marion Operations
3. STREET ADDRESS OF EMISSION SOURCE Crab Orchard Wildlife Refuge	4. CITY OF EMISSION SOURCE (Rural) Marion, Illinois

GENERAL INFORMATION

5. NAME OF PROCESS Composite Material Sawing & Machining	6. NAME OF EMISSION SOURCE EQUIPMENT Variable Speed Hand Grinder	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER McMaster Carr	8. MODEL NUMBER 4344A55	9. SERIAL NUMBER.

10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE
Process Flow Diagram: Composite Material Sawing & Machining See Page 5 of 44

11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION)
N/A

12. AVERAGE OPERATING TIME OF EMISSION SOURCE	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE:
0.16 HRS/DAY 1 DAYS/WK 52 WKS/YR	1.0 HRS/DAY 1 DAYS/WK 52 WKS/YR

14. PERCENT OF ANNUAL THROUGHPUT:
DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
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4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
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AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

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MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. IM7/8551-7 Composite Material Billet	b. 50 LB/HR	c. 100 LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. IM7/8551-7 Composite Material Billet	b. 49.6472 LB/HR	c. 99.2944 LB/HR
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32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. IM7/8551-7 Composite Material Dust	b. 0.3528 LB/HR	c. 0.7056 LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HP
44a.	b. LB/HR	c. LB/HP

*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b. ———	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE. BTU/HP	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

See page 37 of 44 for IM7/8551-7 Composite Material Billet Constituents

*EMISSION INFORMATION N/A

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED).

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
** OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION N/A

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

66. EXIT HEIGHT ABOVE GRADE FT	67. EXIT DIAMETER:
68. GREATEST HEIGHT OF NEARBY BUILDINGS: FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY. FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: °F	72. EXIT GAS TEMPERATURE: °F
71. GAS FLOW RATE THROUGH EACH EXIT: ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1/2 Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION PROCESS EMISSION SOURCE Subsource 4	F-2-11-88 (Feb. 22, 1988) APC200 Construct/Operate Olin Corp., Marion, IL

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER Olin Corporation	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) Marion Operations
3. STREET ADDRESS OF EMISSION SOURCE Crab Orchard WildLife Refuge	4. CITY OF EMISSION SOURCE (Rural) Marion, Illinois

GENERAL INFORMATION

5. NAME OF PROCESS Composite Material Sawing & Machining	6. NAME OF EMISSION SOURCE EQUIPMENT Pneumatic Multi-Angle Belt Sander	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER McMaster Carr	8. MODEL NUMBER 4643A71	9. SERIAL NUMBER

10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE
Process Flow Diagram: Composite Material Sawing & Machining See Page 5 of 44

11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION)
N/A

12. AVERAGE OPERATING TIME OF EMISSION SOURCE:	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE:
0.16 HRS/DAY 1 DAYS/WK 52 WKS/YR	1.0 HRS/DAY 1 DAYS/WK 52 WKS/YR

14. PERCENT OF ANNUAL THROUGHPUT
DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. IM7/8551-7 Composite Material Billet	b. 50 LB/HR	c. 100 LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. IM7/8551-7 Composite Material Billet	b. 49.6472 LB/HR	c. 99.2944 LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. IM7/8551-7 Composite Material Dust	b. 0.3528 LB/HR	c. 0.7056 LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b. ———	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

See Page 37 of 44 for IM7/8551-7 Composite Material Billet Constituents

001608

*EMISSION INFORMATION N/A

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED)

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION N/A

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

66. EXIT HEIGHT ABOVE GRADE.	67. EXIT DIAMETER:
68. GREATEST HEIGHT OF NEARBY BUILDINGS: FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: °F	72. EXIT GAS TEMPERATURE: °F
71. GAS FLOW RATE THROUGH EACH EXIT: ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

[illegible] Section 1039. Disclosure of this information is required under that section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center

*DATA AND INFORMATION AIR POLLUTION CONTROL EQUIPMENT	F-2-11-88 (Feb. 22, 1988) APC200 Construct/Operate Olin Corp., Marion, IL.

*THIS INFORMATION FORM IS FOR AN INDIVIDUAL UNIT OF AIR POLLUTION CONTROL EQUIPMENT OR AN AIR POLLUTION CONTROL SYSTEM.

1. NAME OF OWNER Olin Corporation	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Marion Operations
3. STREET ADDRESS OF CONTROL EQUIPMENT: Crab Orchard WildLife Refuge	4. CITY OF CONTROL EQUIPMENT (Rural) Marion
5. NAME OF CONTROL EQUIPMENT OR CONTROL SYSTEM "F-2-11-88"	Supertron-Hybrid Mechanical Filter With High Efficiency Electrostatic "Polishing Filter"

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION.
2. COMPLETE THE APPROPRIATE SECTION FOR THE UNIT OF CONTROL EQUIPMENT, OR THE APPROPRIATE SECTIONS FOR THE CONTROL SYSTEM. BE CERTAIN THAT THE ARRANGEMENT OF VARIOUS UNITS IN A CONTROL SYSTEM IS MADE CLEAR IN THE PROCESS FLOW DIAGRAM.
3. COMPLETE PAGE 6 OF THIS FORM, EMISSION INFORMATION AND EXHAUST POINT INFORMATION.
4. EFFICIENCY VALUES SHOULD BE SUPPORTED WITH A DETAILED EXPLANATION OF THE METHOD OF CALCULATION, THE MANNER OF ESTIMATION, OR THE SOURCE OF INFORMATION. REFERENCE TO THIS FORM ANY RELEVANT INFORMATION OR EXPLANATION INCLUDED IN THIS PERMIT APPLICATION.
5. EFFICIENCY VALUES AND CERTAIN OTHER ITEMS OF INFORMATION ARE TO BE GIVEN FOR AVERAGE AND MAXIMUM OPERATION OF THE SOURCE EQUIPMENT. FOR EXAMPLE, "MAXIMUM EFFICIENCY" IS THE EFFICIENCY OF THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT MAXIMUM OPERATION, AND "AVERAGE FLOW RATE" IS THE FLOW RATE INTO THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT AVERAGE OPERATION.
6. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS", APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY

AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:

MAXIMUM OPERATION - THE GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

ADSORPTION UNIT N/A	
1. FLOW DIAGRAM DESIGNATION(S) OF ADSORPTION UNIT.	
2. MANUFACTURER:	3. MODEL NAME AND NUMBER
4. ADSORBENT: ☐ ACTIVATED CHARCOAL. TYPE _____ ☐ OTHER SPECIFY _____	
5. ADSORBATE(S)	
6. NUMBER OF BEDS PER UNIT.	7. WEIGHT OF ADSORBENT PER BED. LB
8. DIMENSIONS OF BED THICKNESS _____ IN, SURFACE AREA _____ SQUARE IN	
9. INLET GAS TEMPERATURE: °F	10. PRESSURE DROP ACROSS UNIT INCH H_2O GAUGE
11. TYPE OF REGENERATION ☐ REPLACEMENT ☐ STEAM ☐ OTHER SPECIFY _____	
12. METHOD OF REGENERATION. ☐ ALTERNATE USE OF _____ ENTIRE UNITS ☐ ALTERNATE USE OF _____ BEDS IN A SINGLE UNIT ☐ SOURCE SHUT DOWN ☐ OTHER DESCRIBE	
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
13. TIME ON LINE BEFORE REGENERATION: MIN/BED	15. TIME ON LINE BEFORE REGENERATION MIN/BED
14. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4): %	16. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4) %

AFTERBURNER N/A	
1. FLOW DIAGRAM DESIGNATION(S) OF AFTERBURNER	
2. MANUFACTURER	3. MODEL NAME AND NUMBER
4. COMBUSTION CHAMBER DIMENSIONS. LENGTH _____ IN, CROSS-SECTIONAL AREA _____ SQUARE IN.	
5. INLET GAS TEMPERATURE: °F	7. FUEL: ☐ GAS ☐ OIL SULFUR _____ WT%
6. OPERATING TEMPERATURE OF COMBUSTION CHAMBER. °F	8. BURNERS PER AFTERBURNER @ BTU/HR EACH
9. CATALYST USED ☐ NO ☐ YES. DESCRIBE CATALYST _____	
10. HEAT EXCHANGER USED ☐ NO ☐ YES DESCRIBE HEAT EXCHANGER _____	
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
11. GAS FLOW RATE. SCFM	13. GAS FLOW RATE: SCFM
12. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4) %	14. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4) %

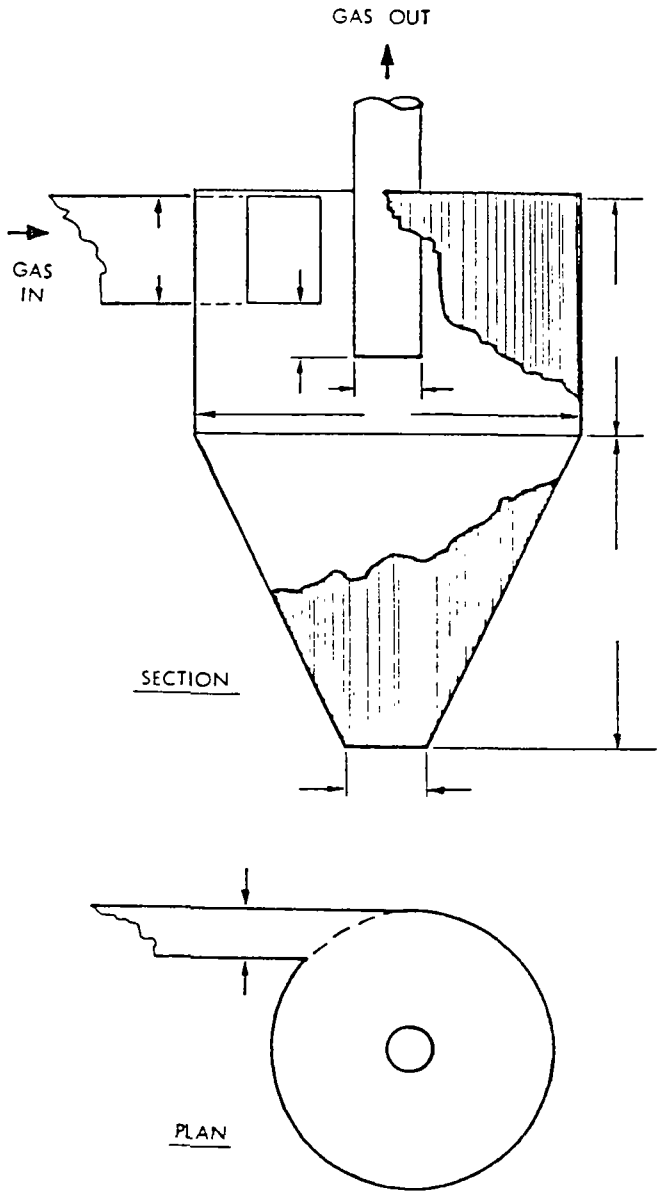
CYCLONE N/A

1. FLOW DIAGRAM DESIGNATION(S) OF CYCLONE

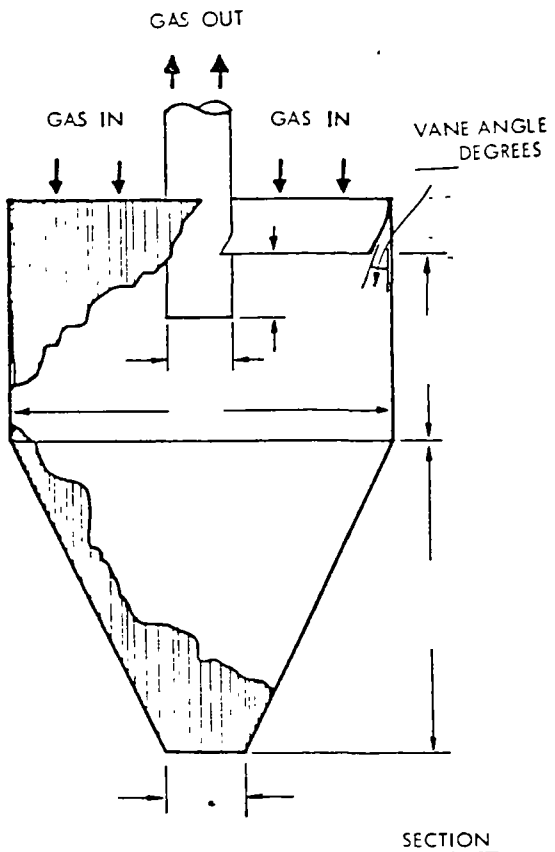
2. MANUFACTURER	3. MODEL.
4. TYPE OF CYCLONE. ☐ SIMPLE ☐ MULTIPLE	5. NUMBER OF CYCLONES IN EACH MULTIPLE CYCLONE

6. DIMENSION THE APPROPRIATE SKETCH (IN INCHES) OR PROVIDE A DRAWING WITH EQUIVALENT INFORMATION:

TANGENTIAL INLET CYCLONE



AXIAL INLET CYCLONE
(INDIVIDUAL CYCLONE OF MULTIPLE CYCLONE)



NOT TO SCALE

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
7. GAS FLOW RATE: SCFM	9. GAS FLOW RATE: SCFM
8. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4) %	10. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): %

1. FLOW DIAGRAM DESIGNATION OF CONDENSER

2. MANUFACTURER	3. MODEL NAME AND NUMBER	4. HEAT EXCHANGE AREA FT^2

AVERAGE OPERATION OF SOURCE		MAXIMUM OPERATION OF SOURCE	
5. COOLANT FLOW RATE PER CONDENSER: WATER ____ GPM AIR ____ SCFM OTHER· TYPE ____, FLOW RATE ____		10. COOLANT FLOW RATE PER CONDENSER. WATER ____ GPM AIR ____ SCFM OTHER TYPE ____, FLOW RATE ____	
6. GAS FLOW RATE: SCFM		11. GAS FLOW RATE: SCFM	
7. COOLANT TEMPERATURE. INLET ___ °F OUTLET ___ °F	8. GAS TEMPERATURE: INLET ___ °F OUTLET ___ °F	12. COOLANT TEMPERATURE: INLET ___ °F OUTLET ___ °F	13. GAS TEMPERATURE· INLET ___ °F OUTLET ___ °F
9. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4)· %		14. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4): %	

*ELECTRICAL PRECIPITATOR

1. FLOW DIAGRAM DESIGNATION OF ELECTRICAL PRECIPITATOR
Flow Diagram of Filter Arrangement — See Page 7 of 44

2. MANUFACTURER:	3. MODEL NAME AND NUMBER.
Eltron Mfg. Inc.	Model EM42-EHTZ Supertron Hybrid

4. COLLECTING ELECTRODE AREA PER CONTROL DEVICE: 400 FT^2

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
5. GAS FLOW RATE: 4000 SCFM	7. GAS FLOW RATE: 4000 SCFM
6. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4) 98-99 %	8. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4) 98-99 %

SUBMIT THE MANUFACTURER'S SPECIFICATIONS FOR THE ELECTRICAL PRECIPITATOR. REFERENCE THE INFORMATION TO THIS FORM.

*ELECTRICAL PRECIPITATORS VARY GREATLY IN THEIR DESIGN AND IN THEIR COMPLEXITY. THE ITEMS IN THIS SECTION PROVIDE A MINIMUM AMOUNT OF INFORMATION. THE APPLICANT MUST, HOWEVER, SUBMIT WITH THIS APPLICATION THE MANUFACTURER'S SPECIFICATIONS, INCLUDING ANY DRAWINGS, TECHNICAL DOCUMENTS, ETC. IF THE INFORMATION PROVIDED BY THE MANUFACTURER'S SPECIFICATIONS IS INSUFFICIENT FOR FULL AND ACCURATE ANALYSIS, THE AGENCY WILL REQUEST SPECIFIC ADDITIONAL INFORMATION.

FILTER UNIT

1. FLOW DIAGRAM DESIGNATION(S) OF FILTER UNIT·
Flow Diagram of Filter Arrangement — See Page 7 of 44

2. MANUFACTURER	3. MODEL NAME AND NUMBER
Eltron Mfg. Inc.	Model EM42-EHTZ Supertron Hybrid
4. FILTERING MATERIAL 2nd Stage: Bonded Microglass 1st Stage: 2 inch Aerolathe Rubberized Fiber	5. FILTERING AREA 1st Stage: 8 Ft.^{2} 2nd Stage: 120 Ft.^{2}

6. CLEANING METHOD.
☐ SHAKER ☐ REVERSE AIR ☐ PULSE AIR ☐ PULSE JET ☒ OTHER SPECIFY Replacement

7. GAS COOLING METHOD: ☐ DUCTWORK· LENGTH ____ FT., DIAM ____ IN. N/A
☐ BLEED-IN AIR ☐ WATER SPRAY ☐ OTHER SPECIFY

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. GAS FLOW RATE (FROM SOURCE): 4000 SCFM	12. GAS FLOW RATE (FROM SOURCE): 4000 SCFM
9. GAS COOLING FLOW RATE: - N/A BLEED-IN AIR ____ SCFM, WATER SPRAY ____ GPM	13. GAS COOLING FLOW RATE: N/A BLEED-IN AIR ____ SCFM, WATER SPRAY ____ GPM
10. INLET GAS CONDITION. EST. TEMPERATURE 70 °F DEWPOINT 52 °F	14. INLET GAS CONDITION: EST. TEMPERATURE 70 °F DEWPOINT 59 °F
11. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): 95 %	15. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4). 95 %

1. FLOW DIAGRAM DESIGNATION(S) OF SCRUBBER

2. MANUFACTURER	3. MODEL NAME AND NUMBER

4. TYPE OF SCRUBBER

☐ HIGH ENERGY: GAS STREAM PRESSURE DROP _____ INCH H_2O

☐ PACKED: PACKING TYPE _____, PACKING SIZE _____, PACKED HEIGHT _____ IN.

☐ SPRAY: NUMBER OF NOZZLES _____, NOZZLE PRESSURE _____ PSIG

☐ OTHER SPECIFY _____ ATTACH DESCRIPTION AND SKETCH WITH DIMENSIONS

5. TYPE OF FLOW:

☐ COCURRENT ☐ COUNTERCURRENT ☐ CROSSFLOW

6. SCRUBBER GEOMETRY:

LENGTH IN DIRECTION OF GAS FLOW _____ IN., CROSS-SECTIONAL AREA _____ SQUARE IN.

7. CHEMICAL COMPOSITION OF SCRUBBANT:

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. SCRUBBANT FLOW RATE: GPM	12. SCRUBBANT FLOW RATE: GPM
9. GAS FLOW RATE: SCFM	13. GAS FLOW RATE: SCFM
10. INLET GAS TEMPERATURE: °F	14. INLET GAS TEMPERATURE: °F
11. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____ % PARTICULATE _____ % GASEOUS	15. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4). _____ % PARTICULATE _____ %-GASEOUS

OTHER TYPE OF CONTROL EQUIPMENT N/A

1. FLOW DIAGRAM DESIGNATION(S) OF "OTHER TYPE" OF CONTROL EQUIPMENT:

2. GENERIC NAME OF "OTHER" EQUIPMENT:	3. MANUFACTURER:	4. MODEL NAME AND NUMBER

5. DESCRIPTION AND SKETCH, WITH DIMENSIONS AND FLOW RATES, OF "OTHER" EQUIPMENT:

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
6. FLOW RATES: _____ GPM _____ SCFM	8. FLOW RATES: GPM _____ SCFM
7. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4) %	9. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4) %

EMISSION INFORMATION

1. NUMBER OF IDENTICAL CONTROL UNITS OR CONTROL SYSTEMS (DESCRIBE AS REQUIRED)

N/A

AVERAGE OPERATION OF SOURCE

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	2a. - GR/SCF	b. 0.021609 LB/HR	c. Calculated Estimate Based On 99% Electrostatic Filter Efficiency
CARBON MONOXIDE	3a. PPM (VOL)	b. None LB/HR	c. N/A
NITROGEN OXIDES	4a. PPM (VOL)	b. None LB/HR	c. N/A
ORGANIC MATERIAL	5a. PPM (VOL)	b. None LB/HR	c. N/A
SULFUR DIOXIDE	6a. PPM (VOL)	b. None LB/HR	c. N/A
OTHER (SPECIFY)	7a. PPM (VOL)	b. None LB/HR	c. N/A

MAXIMUM OPERATION OF SOURCE

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	8a. GR/SCF	b. 0.04873 LB/HR	c. Calculated Estimate Based on 99% Electrostatic Filter Efficiency
CARBON MONOXIDE	9a. PPM (VOL)	b. None LB/HR	c. N/A
NITROGEN OXIDES	10a. PPM (VOL)	b. None LB/HR	c. N/A
ORGANIC MATERIAL	11a. PPM (VOL)	b. None LB/HR	c. N/A
SULFUR DIOXIDE	12a. PPM (VOL)	b. None LB/HR	c. N/A
OTHER (SPECIFY)	13a. PPM (VOL)	b. None LB/HR	c. N/A

**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

EXHAUST POINT INFORMATION

1. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

Process Flow Diagram: Composite Material Sawing & Machining See Page 5 of 44

2. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.)

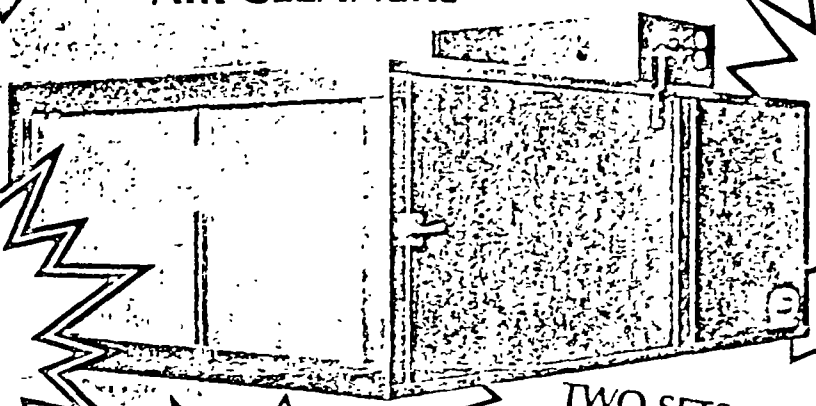
Filtered Air will be Exhausted & Recirculated into room .

3. EXIT HEIGHT ABOVE GRADE: 2½ ft.	4. EXIT DIAMETER: 2 ft.
5. GREASTEST HEIGHT OF NEARBY BUILDINGS: 35 FT	6. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: 100 FT
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
7. EXIT GAS TEMPERATURE. EST. 70 °F	9. EXIT GAS TEMPERATURE: EST. 70 °F
8. GAS FLOW RATE THROUGH EACH EXIT: 4000 ACFM	10. GAS FLOW RATE THROUGH EACH EXIT: 4000 ACFM

Olin Corp., Marion, IL

Supertron

HIGH PERFORMANCE AIR CLEANERS



DOUBLED COLLECTING EFFICIENCY!

TWICE AS MUCH DIRT HANDLING CAPABILITY!

COLLECTOR CLEANING NEEDED LESS OFTEN!

TWO SETS OF COLLECTORS provide twice as much air cleaning performance!

SAFETY FILTER option eliminates any possibility that dust could blow through the collector for any reason!

FUME STOP'ER option eliminates even the odor of collected contaminants!

"EXTENDED PERFORMANCE" precipitator construction is available to maximize operating lifetime between required maintenance incidents, even in difficult applications.

FOR EXCEPTIONAL AIR CLEANING PERFORMANCE, SPECIFY "SUPERTRON" COLLECTORS

Eltron's "Supertron" models provide complete tandem-pass two-stage high efficiency precipitator systems in the most compact cabinets ever. Having two complete air cleaner sections in series to efficiently control very heavy contaminant concentrations, they provide the greatest air cleaning efficiency, plus doubled smoke collecting capability, and twice as much dirt holding capacity.

"Supertron" construction is available for all Standard Service type "Eltronic" industrial precipitators (in both Plant and Process Precipitator model series, and in both "Basic" and "Extended Performance" collector styles), as well as for "Fume Stop'er" odor adsorbers. Rated air cleaning capacities of standard models range from 875 cfm to 120,000 cfm.

For each of these hundreds of models, Eltron builds "Supertron" units in six different configurations for maximum versatility:

- As "expandable" single-pass collectors in tandem-pass cabinets (ref. Figure 1). These allow simple "plug-in" upgrading to full tandem-pass capability if greater efficiency or collecting capacity is needed in the future. The originally-installed collectors may be either electrostatic, filter type, or "Fume Stop'er" modules, as needed for each particular application.
- As fully equipped tandem-pass units, with two complete sets of collecting components factory installed (ref. Figures 2, 3, 4, 5, 6).

The active collecting components in each "Supertron" can include any combination of electrostatic, filter and adsorption elements.

"Supertron" Safety Filter units as shown in Figure 3 are provided (as standard equipment) with a pressure sensor and performance indicator lamp. This lamp (or optional external alarm circuit) can provide a virtually fool-proof indication that the primary electrostatic air cleaner is not overloaded and that it is operating at full collecting efficiency. The Safety Filter option thus eliminates any possibility of electrostatic space-charge or ion-plating problems developing without warning, even with undersized or inadequately maintained collectors

When added to self-cleaning "Vibrotron" electrostatic dust collectors, the "Supertron" Safety Filter guarantees no blow-off of fugitive dust after each cleaning cycle.

eltron®

ELTRON MFG. INC. 001619

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Interstate Industrial Park Bellmawr, NJ 08031 (609) 931-1200

Printed in U.S.A. Form No. ST28

"Supertron" units can make possible substantial savings when the proposed application involves any of these common conditions:

Contaminant concentration (or smoke loading) so heavy that it can not all be collected in a single-pass precipitator. (Ref. Application Data Sheet 09300 for specific Selection guidelines.)

A mixture of contaminant types can not all be trapped efficiently by any single type of collector. "Supertron" hybrid air cleaning units (shown in Figures 3, 4, 5 and 6) can provide the best combination of collector types to assure optimum control of all the airborne pollutants.

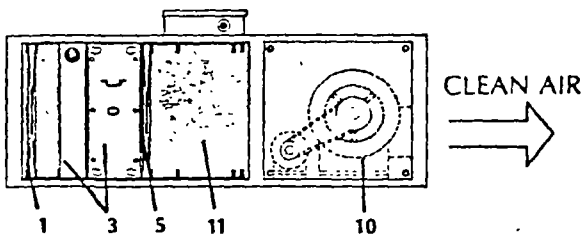
Variations from time to time in production requirements, with the possibility that increased smoke elimination capacity or collecting efficiency may be needed in the future.

Selection of complete tandem-pass "Supertron" precipitator models as shown in Figure 2 is recommended as economical "insurance" of long-term successful air cleaning performance under demanding application conditions. A "Supertron" is the correct choice when any residual pollutant emission can not be tolerated, or when cleaned air will be recycled in-plant after having been stripped of toxic or highly irritating contaminants.

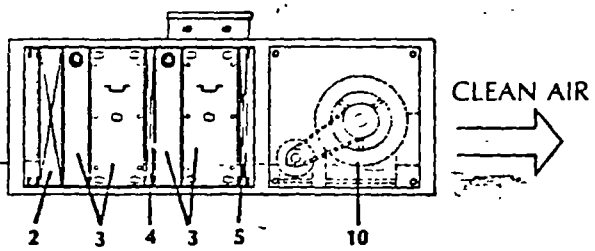
"Supertron" also makes it practical to improve electrostatic collector performance when handling heavy solid particulates or sticky "smokes". Multiple interception media filters (including extra deep high arrestance prefilters) can be utilized ahead of a high efficiency precipitator as shown in Figure 5 to trap bulky contaminants and reduce dirt loading in the electrostatic collecting components. This can substantially extend the air cleaner's useful life between necessary collector cleaning cycles.

When the odor of solvent vapors or unpleasant gases must be removed before cleaned plant air can be recycled, a "Supertron" can be equipped with high capacity "Fume Stop'er" adsorbent modules. Either activated charcoal or reactive oxidant type gas and vapor adsorbers may be used in the second pass of such a hybrid unit (ref. Figures 4, 6).

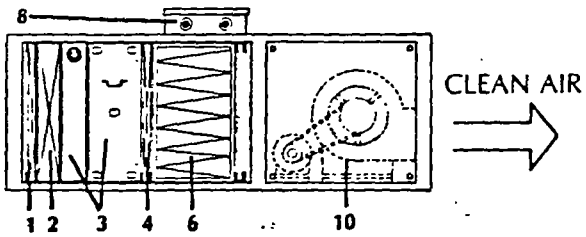
1. "EXPANDABLE" SINGLE-PASS PRECIPITATOR *



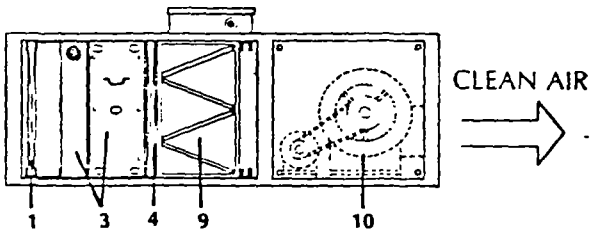
2. TANDEM-PASS MAXIMUM EFFICIENCY PRECIPITATOR *



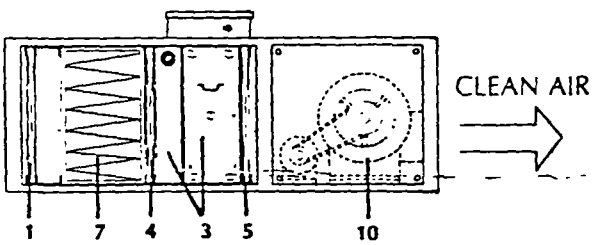
3. HYBRID PRECIPITATOR WITH LOW PRESSURE SAFETY FILTER *



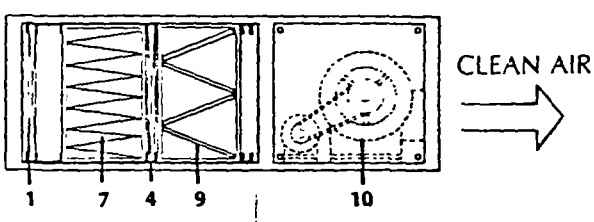
4. HYBRID PRECIPITATOR WITH "FUME STOP'ER" VAPOR COLLECTOR *



5. HYBRID MECHANICAL FILTER WITH HIGH EFFICIENCY ELECTROSTATIC "POLISHING FILTER" *



6. HYBRID FILTER COLLECTOR AND "FUME STOP'ER" ODOR ADSORBER *



1. Prefilter
2. Extra deep, high arrestance prefilter
3. Electrostatic ionizer and collector
4. Intermediate filter
5. Afterfilter
6. "Zee pleat" interception media mechanical safety filter (fast loading, low pressure drop type, rated 85% efficiency)
7. Interception media particulate filter
8. Cleaning alarm lamp
9. "Fume Stop'er" adsorption type vapor collector and odor filter
10. Blower
11. "Expansion" space for future collector

* All configurations are also available as blowerless units for in-duct installation, in all sizes from 1000 cfm to 100,000 cfm.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1/2 Section 1039 Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

DISPOSITION OF WASTE MATERIALS(A)

NAME OF EQUIPMENT OR PROCESS TO BE CONSTRUCTED OR OPERATED (B): Composite Cure & Composite Sawing/Machining

FOR AGENCY USE ONLY

REFERENCE I.D. NO. _____

REFERENCE PERMIT NO. _____

DATE _____

1a. NAME OF OWNER: Olin Corporation		2a. NAME OF OPERATOR: Olin Corporation	
1b. STREET ADDRESS OF OWNER: P. O. Box 278		2b. STREET ADDRESS OF OPERATOR: P. O. Box 278	
1c. CITY OF OWNER: Marion		2c. CITY OF OPERATOR: Marion	
1d. STATE OF OWNER: Illinois	1e. ZIP CODE: 62959	2d. STATE OF OPERATOR: Illinois	2e. ZIP CODE: 62959

3a. NAME OF CORPORATE DIVISION OR PLANT: Marion Operations		3b. STREET ADDRESS OF EMISSION SOURCE: Crab Orchard Wildlife Refuge		
3c. CITY OF EMISSION SOURCE: (Rural) Marion	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	3e. TOWNSHIP: N/A	3f. COUNTY: Williamson	3g. ZIP CODE: 62959

4. ALL CORRESPONDENCE TO (NAME OF INDIVIDUAL): Arthur Heinz, Jr., Director	5. TELEPHONE NUMBER FOR AGENCY TO CALL: (618) 985-8211
6. ADDRESS FOR CORRESPONDENCE (CHECK ONLY ONE): ☒ OWNER ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR ID NUMBER FOR THIS APPLICATION:(C) F-2-11-88

(A) THIS FORM IS TO BE COMPLETED FOR ANY STATIONARY EMISSION SOURCE THAT WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL THAT MAY BE DISPOSED OF IN A MANNER THAT MAY CAUSE OR TEND TO CAUSE POLLUTION IN ILLINOIS EITHER ALONE OR IN COMBINATION WITH MATTER FROM OTHER SOURCES OR SO AS TO VIOLATE REGULATIONS OR STANDARDS ADOPTED BY THE POLLUTION CONTROL BOARD UNDER THE ENVIRONMENTAL PROTECTION ACT.

(B) ENTER INFORMATION HERE FROM COMPARABLE BLOCK ON APC-200 - "APPLICATION FOR A PERMIT".

(C) ENTER INFORMATION IN ITEM 7 ABOVE SAME AS ITEM 7 APC-200 - "APPLICATION FOR A PERMIT".

(D) IF ADDITIONAL SPACE IS REQUIRED USE ADDITIONAL SHEETS, ATTACH AND IDENTIFY INFORMATION BY APPROPRIATE BLOCK NUMBER AS IT APPEARS ON THIS FORM.

THIS ADDENDUM WILL BE REVIEWED BY THE DIVISION OF LAND POLLUTION CONTROL AND THE OWNER WILL BE NOTIFIED WHETHER OR NOT A DETAILED APPLICATION FOR A PERMIT WILL NEED TO BE SUBMITTED. THIS FORM APC-103 - "DISPOSITION OF SOLID WASTE") IN ITSELF SHALL NOT BE CONSIDERED TO BE AN APPLICATION FOR A PERMIT. PROPER APPLICATION FOR PERMIT FORMS WILL BE MAILED TO YOU BY THE DIVISION OF LAND POLLUTION CONTROL, IF IT IS DEEMED THAT THE FACILITY REQUIRES A PERMIT.

8. BRIEFLY DESCRIBE THE PROCESS WHICH WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL.

Cured Composite Material Billets will be sawed & machined. A portable hood or a downdraft table will collect billet dust into an Eltron Supertron-Hybrid Dust Collector.

Dust; Filters contaminated with billet dust

10. FOR THE WASTE STATE THE CHEMICAL COMPOSITION, EXPRESSED AS WEIGHT PERCENTAGES OF SOLID WASTE OR IN MILLIGRAMS PER LITER FOR LIQUIDS. See page 37 of 44 for IM7/8551-7 Composite Material Billet Constituents.

10a. STATE VOLUME & WEIGHT OF THE WASTE GENERATED BY THIS OPERATION (Gal/lbs)
DAILY .07/.35 DAY WEEKLY .07/.35 WK MONTHLY .28/1.4 /MO. YEARLY 3.7/18.2 YR OTHER _____ EXPLAIN

11a. WILL THE WASTE MATERIAL BE DEPOSITED IN A SANITARY LANDFILL PERMITTED BY THE ENVIRONMENTAL PROTECTION AGENCY?
[X] YES [ ] NO If it is determined to be a nonhazardous waste.

11b. IF THE ANSWER TO 1a IS "YES", STATE THE NAME AND AGENCY SUPPLEMENTAL PERMIT NUMBER OF SUCH SITE.
NAME To be determined SUPPLEMENTAL PERMIT NO. To be assigned if required

12a. WILL THE WASTE MATERIAL BE STORED OR PROCESS AT THE APPLICANT PLANT OR PREMISES? [X] YES [ ] NO

12b. IF THE ANSWER TO 12a IS "YES", EXPLAIN.
The billet dust and contaminated filters will be accumulated in containers in temporary storage until which time it is transfered to an approved disposal site.

13a. WILL THE WASTE MATERIAL BE TRANSPORTED TO A REMOTE SITE FOR STORAGE, PROCESSING, OR DISPOSAL? [X] YES [ ] NO

13b. IF THE ANSWER TO 13a IS "YES", EXPLAIN.
The waste will be transported to a remote disposal site approved for this waste stream.

14a. WILL THE WASTE MATERIAL BE INCINERATED? [ ] YES [X] NO

4b. IF THE ANSWER TO 14a IS "YES", EXPLAIN.

15a. IF THE WASTE WILL BE DISPOSED OR UTILIZED IN A MANNER NOT OTHERWISE DESCRIBED, STATE THE METHOD OF UTILIZATION OR DISPOSAL TO BE USED AND THE OWNER AND LOCATION OF THE DISPOSAL OR PROCESSING FACILITY AND EXPLAIN.

N/A

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

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*DATA AND INFORMATION PROCESS EMISSION SOURCE Subsource 5	F-2-11-88 (Feb. 22, 1988) APC200 Construct/Operate Olin Crop. Marion, IL

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER: Olin Corporation	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) Marion Operations
3. STREET ADDRESS OF EMISSION SOURCE: Crab Orchard Wildlife Refuge	4. CITY OF EMISSION SOURCE: (Rural) Marion

GENERAL INFORMATION		
5. NAME OF PROCESS: Composite Material Cure	6. NAME OF EMISSION SOURCE EQUIPMENT. Bulk Oven	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER Grieve Corporation	8. MODEL NUMBER. AF850	9. SERIAL NUMBER.
10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE: Process Flow Diagram: Composite Material Cure See Page 6 of 44		
11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION) N/A		
12. AVERAGE OPERATING TIME OF EMISSION SOURCE. 4 HRS/DAY 5 DAYS/WK 20 WKS/YR	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE: 8 HRS/DAY 5 DAYS/WK 10 WKS/YR	
14. PERCENT OF ANNUAL THROUGHPUT: DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %		

INSTRUCTIONS
1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION. 2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED. 3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT. 4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES. 5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD. AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME. AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES. MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD. MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION. MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. IM7/8551-7 Composite Material Uncured	b. 5.00 LB/HR	c. 5.00 LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION

NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. IM7/8551-7 Composite Material Cured	b. 4.99 LB/HR	c. 4.99 LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. - LB/HR
34a.	b. LB/HR	c. - LB/HR

WASTE MATERIAL INFORMATION

NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. None	b. LB/HR	c. LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A

FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b.	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB

d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR

e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

See Page 37 of 44 for IM7/8551-7 Composite Material Billet Constituents

REVISION INFORMATION

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED)

N/A

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. None LB/HR	c. N/A
CARBON MONOXIDE	53a. PPM (VOL)	b. None LB/HR	c. N/A
NITROGEN OXIDES	54a. PPM (VOL)	b. None LB/HR	c. N/A
ORGANIC MATERIAL	55a. PPM (VOL)	b. 0.0095 LB/HR	c. Engineering estimate & info. from Hercules, Inc.
SULFUR DIOXIDE	56a. PPM (VOL)	b. None LB/HR	c. N/A
**OTHER (SPECIFY)	57a. Unidentified PPM (VOL)	b. 0.002365 LB/HR	c. Engineering estimate & info. from Hercules, Inc.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. None LB/HR	c. N/A
CARBON MONOXIDE	59a. PPM (VOL)	b. None LB/HR	c. N/A
NITROGEN OXIDES	60a. PPM (VOL)	b. None LB/HR	c. N/A
ORGANIC MATERIAL	61a. PPM (VOL)	b. 0.0095 LB/HR	c. Engineering estimate & info. from Hercules, Inc.
SULFUR DIOXIDE	62a. PPM (VOL)	b. None LB/HR	c. N/A
**OTHER (SPECIFY)	63a. Undentified PPM (VOL)	b. 0.0023625 LB/HR	c. Engineering estimate & info. from Hercules, Inc.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:
Process Flow Diagram: Composite Material Cure See page 6 of 44

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):
Vented to outside on west side of building; no other buildings within 250 feet.

66. EXIT HEIGHT ABOVE GRADE:	67. EXIT DIAMETER:
32 feet	24 inches
68. GREATEST HEIGHT OF NEARBY BUILDINGS:	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY:
35 FT	100 FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: EST. 70 °F	72. EXIT GAS TEMPERATURE: EST. 70 °F
71. GAS FLOW RATE THROUGH EACH EXIT: 1600 ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT. 1600 ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

[illegible] is required [illegible] to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION PROCESS EMISSION SOURCE Subsource 6	F-2-11-88 (Feb. 22, 1988) APC200 Construct/Operate Olin Corp., Marion, IL

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL-COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER.	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER)
Olin Corporation	Marion Operations
3. STREET ADDRESS OF EMISSION SOURCE.	4. CITY OF EMISSION SOURCE:
Crab Orchard Wildlife Refuge	(Rural) Marion, Illinois

GENERAL INFORMATION

5. NAME OF PROCESS	6. NAME OF EMISSION SOURCE EQUIPMENT.	
Composite Material Cure	Compression Mold	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER.	8. MODEL NUMBER:	9. SERIAL NUMBER.
Olin Corporation	N/A	N/A

10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE:
Process Flow Diagram: Composite Material Cure — See Page 6 of 44

11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION)
N/A

12. AVERAGE OPERATING TIME OF EMISSION SOURCE	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE
1.85 HRS/DAY 5 DAYS/WK 52 WKS/YR	12 HRS/DAY 6 DAYS/WK 10 WKS/YR

14. PERCENT OF ANNUAL THROUGHPUT
DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. IM7/8551-7 Composite Material Uncured	b. 4.00 LB/HR	c. 4.00 LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. IM7/8551-7 Composite Material Cured	b. 3.9872 LB/HR	c. 3.9872 LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. None	b. LB/HR	c. LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b.	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

See page 37 of 44 for IM7/8551-7 Composite Material Billet Constituents

*EMISSION INFORMATION

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED)

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. None LB/HR	c. N/A
CARBON MONOXIDE	53a. PPM (VOL)	b. None LB/HR	c. N/A
NITROGEN OXIDES	54a. PPM (VOL)	b. None LB/HR	c. N/A
ORGANIC MATERIAL	55a. PPM (VOL)	b. 0.01024 LB/HR	c. Engineering estimate & info. from Hercules, Inc.
SULFUR DIOXIDE	56a. PPM (VOL)	b. None LB/HR	c. N/A
**OTHER (SPECIFY)	57a. Unidentified PPM (VOL)	b. 0.00256 LB/HR	c. Engineering estimate & info. from Hercules, Inc.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. None LB/HR	c. N/A
CARBON MONOXIDE	59a. PPM (VOL)	b. None LB/HR	c. N/A
NITROGEN OXIDES	60a. PPM (VOL)	b. None LB/HR	c. N/A
ORGANIC MATERIAL	61a. PPM (VOL)	b. 0.01024 LB/HR	c. Engineering estimate & info. from Hercules, Inc.
SULFUR DIOXIDE	62a. PPM (VOL)	b. None LB/HR	c. N/A
**OTHER (SPECIFY)	63a. Unidentified PPM (VOL)	b. 0.00256 LB/HR	c. Engineering estimate & info. from Hercules, Inc.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:
Process Flow diagram: Composite Material Cure See page 6 of 44

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):
Vented to outside on west side of building; no other buildings within 250 feet

66. EXIT HEIGHT ABOVE GRADE:	67. EXIT DIAMETER:
32 feet	24 inches
68. GREATEST HEIGHT OF NEARBY BUILDINGS:	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY:
35 FT	100 FT

AVERAGE OPERATION		MAXIMUM OPERATION	
70. EXIT GAS TEMPERATURE:	EST. 70 °F	72. EXIT GAS TEMPERATURE:	EST. 70 °F
71. GAS FLOW RATE THROUGH EACH EXIT:	1600 ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT:	1600 ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

Olin Corp., [illegible], IL

HERCULES INCORPORATED
Hercules Plaza
Wilmington, Delaware, 19894
Phone Number: (302) 594-5000 (all hours)

MSDS No.: G 006B
Date: 08/08/86

Supersedes MSDS No.: G 006A

I. PRODUCT IDENTIFICATION

WARNING! THIS PRODUCT IS ELECTRICALLY CONDUCTIVE.
MAY CAUSE EYE AND SKIN IRRITATION.
PROLONGED OR REPEATED CONTACT MAY CAUSE ALLERGIC SKIN REACTION.

THIS PRODUCT CONTAINS AN UNCURED EPOXY RESIN SYSTEM.
CURING SHOULD ONLY BE DONE IN A WELL VENTILATED OR CLOSED SYSTEM.

MAGNAMITE® Carbon/Epoxy Prepregs: Types: AS4/8551-7, AS6/8551-7, IM6/8551-7, HMS/8551-7, (Tape, Fabric and Towpreg) HMS4/8551-7, and IM7/8551-7

Amine-cured epoxy resin and carbon (graphite) fiber

Appearance and odor: Slightly tacky resin on black fiber, on carrier paper; no significant odor at room temperature.

II. HAZARDOUS INGREDIENTS & EXPOSURE LIMITS

Chemical & Common Names of Hazardous Ingredients	% typical	Recommended Air-borne levels OSHA PEL	TLV*-TWA 1985-86
Uncured multifunctional epoxy resins, an aromatic, diamino curing agent and a polymerization catalyst: (Chemical identity withheld as a trade secret)	30-40	Not established	Not established
Graphite (Carbon) Fiber (Synthetic) [7782-42-5] (polyacrylonitrile (PAN)-based; 92-99.7% carbon)	60-70	See below**	

**Not established. This material is not expected to cause physiologic impairment at low concentration. Until a specific TLV* is adopted by the ACGIH (American Conference of Governmental Industrial Hygienists), or an OSHA (Occupational Safety & Health Administration) standard is issued, Hercules Incorporated suggests that this material be treated as a nuisance dust or particulate in accordance with the recommendations of ACGIH.

III. TYPICAL PHYSICAL & CHEMICAL CHARACTERISTICS

WARNING! THIS PRODUCT IS ELECTRICALLY CONDUCTIVE.

Boiling point: N/A
Solubility in water: Negligible
Vapor pressure @ 20°C: N/A
Specific gravity: 1.5

...Continued

*TLV is a registered trademark of Amer. Conf. of Gov. Indust. Hygienists for Threshold Limit Values.
N/A - not applicable

We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for [illegible] obtained by the application of this information or the safety and suitability of our products,

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VI. SPILL & LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Place in sealed plastic bag for disposal.

Waste Disposal Method: Material awaiting disposal should be placed in sealed containers to avoid potential human exposure. Disposal in a permitted incinerator equipped with a high efficiency scrubber is recommended. Landfilling in a licensed facility, preferably after the resin is cured, is also an acceptable disposal method. Dispose of in accordance with local, state and federal laws.

This product is not listed in federal hazardous waste regulations 40 CFR 261.33 paragraphs (e) or (f), i.e. chemical products that are considered hazardous if they become wastes. It does not exhibit any of the hazardous characteristics listed in 40CFR261 Subpart C. State or local hazardous waste regulations may apply if different from the federal.

VII. APPLICABLE CONTROL MEASURES

Appropriate hygienic practices:	Do not allow eye or skin contact. Wash thoroughly after handling, and before eating, drinking or smoking. Remove contaminated clothing promptly and clean thoroughly before reuse.
Personal protective equipment:	Impervious gloves Safety glasses Appropriate respirator selected and used in accordance with OSHA Subpart I (29 CFR 1910.134) required if cured product is machined or abraded releasing dust/fibers and airborne contaminant is likely to exceed acceptable limits.
Work practices:	Eyewash fountains and safety showers should be easily accessible.
Handling and storage precautions:	This product may react with strong oxidizers, acids and bases and should not be stored near such materials. Store at or below -17.8°C (0°F) to extend use. DO NOT INCINERATE unless the permitted incinerator is equipped with a high efficiency scrubber. THIS PRODUCT IS ELECTRICALLY CONDUCTIVE.
Engineering controls:	Adequate ventilation should be provided to keep vapor and dust concentrations below acceptable exposure limits. Discharge from the ventilation system should comply with applicable air pollution control regulations. Electrical systems, in areas where this product is handled and potential fiber particles can become airborne, must be satisfactory for operation in an environment containing electrically conductive fiber.

fnc 1309s

V. HEALTH HAZARD DATA

...Continued

Medical conditions generally recognized as being aggravated by exposure: None known. Prolonged or repeated contact to most types of uncured epoxy resins may aggravate preexisting skin irritation or, in susceptible individuals who have previously been exposed to other uncured epoxies, skin sensitization (allergic) reactions may occur.

Primary Route of Entry: Following standard industrial hygiene and recommended procedures, entry of the material into the body is not expected (only likely exposure is skin contact).

The components of this product are not listed as carcinogens by NTP (National Toxicology Program); not regulated as carcinogens by OSHA (Occupational Safety & Health Administration); not evaluated by IARC (International Agency for Research on Cancer).

Reported Human Effects: Hercules Incorporated has not received any reports of adverse effects from workers handling this product nor have any reports of adverse effects been received from its workers exposed to this product during product development. The principle health hazard associated with the handling of graphite fibers is simple mechanical abrasion and irritation which is a direct result of the physico-mechanical properties of the fibers rather than a toxico-chemical reaction. Occupational dermatitis is not uncommon in workers handling these types of materials without proper skin protection, and inflammatory eruptions and drying of the skin have been noted. Allergic or sensitizing reactions are not reported to occur when handling the unsized fibers; however, sized fiber or prepregs prepared from these fibers will carry with them the toxicological properties of the resin or sizing material. Effects of overexposure to the diamino curing agent alone are reported to include fever, sore throat, body discomfort, headache and weakness.

Reported Animal Effects: Hercules Incorporated has not conducted any animal testing with this product. Studies have shown that ground, pitch-based, graphite fiber may have been carcinogenic when benzene suspensions were painted on the shaved backs of mice; polyacrylonitrile (PAN)-based fibers, such as MAGNAMITE Graphite (carbon) Fibers, were not active in this assay. Studies have been reported on the long-term toxicity of carbon fiber implants in rats (24 mo) and mice (18 mo), including histological examination of all tissues in the implant area and other specific organs. Although an interim report indicated that there may have been a single malignant fibrosarcoma found in relation to an implant, in the final report of the study, it is stated that there was no evidence of long-term toxicity or carcinogenicity from the implanted materials. In another study, guinea pigs were exposed to airborne, chopped carbon fibers for periods of up to 104 h and examined up to 27 weeks later (99% non-fibrous and ~1.0 μm in diameter; of the remaining 1%, few of the fibers were in the respirable range (1.0-2.5 μm x < 10 μm), and most were ≥ 10 μm x > 100 μm). The non-fibrous particles in the lung tissues were, for the most part, observed in macrophages, indicating a normal tissue reaction, and most of the fibers remained in the extracellular spaces; no tumors were found and scar tissue in the lungs was not observed. Another study has been conducted to evaluate the exposure of rats to 20 mg carbon fibers per cubic meter of air, 6 h/day, 5 day/wk, for up to 4 mo (fiber mean diameter 7 μm.); no significant treatment-related effects or fibrogenic responses were seen at any time period during the study.
One of the uncured epoxy resins in the epoxy resin formulation is reported to be a severe skin (and probably eye) irritant and a skin sensitizer. In vivo and in vitro testing with this component found it to be mutagenic in a Chinese hamster (bone marrow) sister chromatid exchange assay, Chinese hamster (bone marrow) nucleus anomaly test, mouse lymphoma cell point mutation assay, and tests for mutations in Salmonella (Ames) and Saccharomyces (yeast). These tests are, however, of limited relevance to humans, since the primary route of human exposure is dermal and, using current handling procedures, minimal skin contact is expected; cured end products made from the tested substance are highly cross-linked and inert. These tests do point out, though, the importance of proper handling of this and other uncured epoxy resin systems. The diamino curing agent has a mouse oral LD_{50} of 4920 mg/kg and a mouse intravenous LD_{50} of 178 mg/kg. Unpublished data on this compound indicate that moderate repeated doses can cause neuritis, dermatitis and hepatitis in animals.

Other: PAN-based fibers were inactive in sister chromatid exchange (SCE) and unscheduled DNA systhesis assays (both measures of carcinogenic potential in in vitro mammalian cell systems.) Ground samples of unsized MAGNAMITE Type AS carbon fiber were also negative in Ames test using any of the 5 tester strains, and no polynuclear aromatic hydrocarbons, such as the carcinogenic benzo(a)pyrene, were detected from Hercules PAN-based fibers (limit of detection < 50 ppb).

III. TYPICAL PHYSICAL & CHEMICAL CHARACTERISTICS

...Continued

Vapor density:	N/A	pH:	N/A
% volatile (vol.):	Negligible at 20°C	Evaporation rate:	N/A
Freezing point:	N/A		

IV. FIRE, EXPLOSION, & REACTIVITY HAZARD DATA

Flash point: Polymerizes below flash point Flammable limits: N/A

Autoignition temperature: N/A

Extinguishing media: Water spray

Special fire-fighting procedures: Use self-contained breathing apparatus or fresh air mask.

Unusual fire & explosion hazards: This product can polymerize and exotherm. (See below)

Stability considerations: Stable. Conditions to Avoid: Slow reaction at room temperature. Avoid temperatures above 135°C (275°F) in large volume of product.

Incompatibility with: Strong oxidizers, acids and bases

Hazardous decomposition products: See below

Hazardous products of combustion: Carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides.

Hazardous polymerization: May occur. Conditions to Avoid: Temperatures above 135°C (275°F) if heated rapidly.
Hazardous polymerization will not occur in intended use.

V. HEALTH HAZARD DATA

WARNING! MAY CAUSE EYE AND SKIN IRRITATION.
PROLONGED OR REPEATED CONTACT MAY CAUSE ALLERGIC SKIN REACTION.
THIS PRODUCT CONTAINS AN UNCURED EPOXY RESIN SYSTEM. CURING SHOULD ONLY BE DONE IN A WELL VENTILATED OR CLOSED SYSTEM.

Signs & symptoms of overexposure in the workplace:

Eyes: May cause eye irritation.
Skin: Prolonged or repeated contact may cause skin irritation or sensitization (allergic skin reaction) typical of uncured epoxy resins; precautions to limit the skin irritation and sensitization toxicity of the epoxies by elimination of skin contact will result in minimal hazard to the handler.
Inhalation: Not determined; due to the low volatility of the components of this resin system, inhalation exposure is not expected to be a significant route of exposure. The synthetic graphite fiber component of the product is not expected to become airborne due to the tacky nature of the material.
Ingestion: Not determined; ingestion is not an expected route of industrial exposure.

EMERGENCY & FIRST AID PROCEDURES:

EYES: In case of contact, immediately flush with plenty of low pressure water for 15 minutes. Remove any contact lenses to ensure thorough flushing. Call a physician.

SKIN: Promptly wash with soap and running water. Remove contaminated clothing. Wash clothing before reuse. Discard contaminated leather articles.

INHALATION: Remove to fresh air. Treat any irritation symptomatically. Call a physician.

INGESTION: If conscious, the person should immediately drink large quantities of liquid to dilute this product. Never give liquids to an unconscious person. Induce vomiting. Call a physician. Never induce vomiting in an unconscious person.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR OPERATING PERMITS

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special permit condition(s).

1. The issuance of this permit does not release the permittee from compliance with state and federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or with applicable local laws, ordinances and regulations.

2. The Agency has issued this permit based upon the information submitted by the permittee in the permit application. Any misinformation, false statement or mispresentation in the application shall be grounds for revocation under 35 Ill. Adm. Code 201.207.

3. a. The permittee shall not authorize, cause, direct or allow any modification, as defined in 35 Ill. Adm. Code 201.102, of equipment, operations or practices which are reflected in the permit application as submitted unless a new application or request for revision of the existing permit is filed with the Agency and unless a new permit or revision of the existing permit(s) is issued for such modification.

   b. This permit only covers emission sources and control equipment while physically present at the indicated plant location(s). Unless the permit specifically provides for equipment relocation, this permit is void for an item of equipment on the day it is removed from the permitted location(s) or if all equipment is removed, notwithstanding the expiration date specified on the permit.

4. The permittee shall allow any duly authorized agent of the Agency, upon the presentation of credentials, at reasonable times:

   a. to enter the permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,

   b. to have access to and to copy any records required to be kept under the terms and conditions of this permit,

   c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,

   d. to obtain and remove samples of any discharge or emission of pollutants, and

   e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring or recording any activity, discharge or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are located,

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the facilities,

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c. does not take into consideration or attest to the structural stability of any unit or part of the project, and

d. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. The facilities covered by this permit shall be operated in such a manner that the disposal of air contaminants collected by the equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

7. The permittee shall maintain all equipment covered under this permit in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

8. The permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment. This record shall be made available to any agent of the Environmental Protection Agency at any time during normal working hours and/or operating hours. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9. No person shall cause or allow continued operation during malfunction, breakdown or startup of any emission source or related air pollution control equipment if such operation would cause a violation of an applicable emission standard or permit limitation. Should a malfunction, breakdown or startup occur which results in emissions in excess of any applicable standard or permit limitation, the permittee shall:

   a. immediately report the incident to the Agency's Regional Field Operations Section Office by telephone, telegraph, or other method as constitutes the fastest available alternative, and shall comply with all reasonable directives of the Agency with respect to the incident;

   b. maintain the following records for a period of no less than two (2) years:

      i. date and duration of malfunction, breakdown or startup,

      ii. full and detailed explanation of the cause,

      iii. contaminants emitted and an estimate of quantity of emissions,

      iv. measures taken to minimize the amount of emissions during the malfunction, breakdown or startup, and

      v. measures taken to reduce future occurrences and frequency of incidents.

10. If the permit application contains a compliance program and project completion schedule, the permittee shall submit a project completion status report within thirty (30) days of any date specified in the compliance program and project completion schedule or at six month intervals, whichever is more frequent.

11. Beginning one year from the date of this permit the permittee shall submit an "Annual Emission Report," form APC-208, as required by 35 Ill. Adm. Code 201.302. (Note: If the permittee has other operating permits for this facility, the "Annual Emission Report" for all such permits may be included in a single annual submission.)

Illinois Environmental Protection Agency 2200 Churchill Road Springfield IL 62706
217/782-2113

OPERATING PERMIT

PERMITTEE

Olin Corporation
Attention: Arthur Heinz, Jr.
P.O. Box 278
Marion, Illinois 62959

Application No.: 86100044 I.D. No.: 199862AAB
Applicant's Designation: D-1-7-E-86 Date Received: October 16, 1986
Subject: Metal Grinder
Date Issued: November 17, 1986 Expiration Date: November 12, 1991
Location: Crab Orchard Wildlife Refuge, Marion

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of a metal grinder as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. This permit is issued based upon a minimal hourly emission rate and negligible annual emissions (less than 0.1 ton/year) of particulate matter from the metal grinder.

Miles A. Zamco, P.E.
Acting Manager, Permit Section
Division of Air Pollution Control

MAZ:DMH:jmm/4042H/31

cc: Region 3

RECEIVED
NOV 25 1986
J. SCHNEIDERMAN

Illinois Environmental Protection Agency 2200 Churchill Road, Springfield, Illinois 62706
217/782-2113

December 22, 1986

Olin Corporation, Winchester Group
Attention: Arthur Heinz, Jr.
P.O. Box 278
Marion, Illinos 62959

Application No.: 76120085
I.D. No.: 199862AAB
Operation of: Torit Dust Collector 1976-2
Letter Dated: December 15, 1986

The Agency hereby acknowledges the receipt of your above-referenced letter and confirms the withdrawal of your operating permit in accordance with your request.

If you have any questions concerning this matter, please contact Joyce A. Salefske at 217/782-2113.

Miles A. Zamco-/FDD

Miles A. Zamco, P.E.
Acting Manager, Permit Section
Division of Air Pollution Control

MAZ:JAS:jmm/4064H/61

cc: Region 3

RECEIVED
DEC 1986

001633

8 December

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

ATTENTION: Mr. Bharat Mathur, P.E.
Manager, Permit Section

REFERENCE: I.D. No.: 199862AAB
Application No.: 76120085
Applicant's Designation: 1976-2
Subject: Torit Dust Collector

Dear Mr. Mathur:

Please withdraw the above referenced operating permit. This emission source has been discontinued.

If further information is required, please contact the undersigned.

Cordially yours,

Arthur Heinz
Director

CCL:AHJ/kc

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ORDNANCE PRODUCTS

October 13, 1986

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

ATTENTION: Mr. Bharat Mathur, P.E.
Manager of Permit Section

Dear Mr. Mathur:

In compliance with Title 35: Environmental Protection, Subtitle B: Air Pollution, Chapter I: Pollution Control Board, Part 201, enclosed herewith are provided three copies of a construction and operating permit application for the installation and operation of a metal grinding operation in the area Olin designates as the "D" Area. The application has been designated as "D-1-7-E-86".

If additional information or clarification is needed, please contact the undersigned at (618) 985-8211.

Cordially yours,

Arthur Heinz, Jr.

CCL:AHJ/kc

Encl.

001635

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

APPLICATION FOR A PERMIT(A)

☒ CONSTRUCT ☒ OPERATE

NAME OF EQUIPMENT TO BE CONSTRUCTED OR OPERATED: METAL GRINDER (B)

FOR AGENCY USE ONLY

I. D. NO. _____

PERMIT NO. _____

DATE _____

1a. NAME OF OWNER: OLIN CORPORATION		2a. NAME OF OPERATOR: OLIN CORPORATION	
1b. STREET ADDRESS OF OWNER: P.O. BOX 278		2b. STREET ADDRESS OF OPERATOR: P.O. BOX 278	
1c. CITY OF OWNER: MARION		2c. CITY OF OPERATOR: MARION	
1d. STATE OF OWNER: ILLINOIS	1e. ZIP CODE: 62959	2d. STATE OF OPERATOR: ILLINOIS	2e. ZIP CODE: 62959

3a. NAME OF CORPORATE DIVISION OR PLANT: ORDNANCE PRODUCTS		3b. STREET ADDRESS OF EMISSION SOURCE: CRAB ORCHARD WILDLIFE REFUGE		
3c. CITY OF EMISSION SOURCE: RURAL MARION	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	3e. TOWNSHIP: N/A	3f. COUNTY: WILLIAMSON	3g. ZIP CODE: 62959

4. ALL CORRESPONDENCE TO: (TITLE AND/OR NAME OF INDIVIDUAL) ARTHUR HEINZ, JR., DIRECTOR	5. TELEPHONE NUMBER FOR AGENCY TO CALL: (618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) ☒ OWNER: ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR DESIGNATION FOR THIS APPLICATION:(C) D-1-7-E-86

8. THE UNDERSIGNED HEREBY MAKES APPLICATION FOR A PERMIT AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. BY AFFIXING HIS SIGNATURE HERETO HE FURTHER CERTIFIES THAT HE IS AUTHORIZED TO EXECUTE THIS APPLICATION.

AUTHORIZED SIGNATURE(S):(D)

BY [signature] SIGNATURE . 10/14/86 DATE

ARTHUR HEINZ, JR.
TYPED OR PRINTED NAME OF SIGNER

DIRECTOR
TITLE OF SIGNER

BY _____ SIGNATURE _____ DATE

TYPED OR PRINTED NAME OF SIGNER

TITLE OF SIGNER

(A) THIS FORM IS TO PROVIDE THE AGENCY WITH GENERAL INFORMATION ABOUT THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS FORM MAY ONLY BE USED TO REQUEST ONE TYPE OF PERMIT - CONSTRUCTION OR OPERATION - AND NOT BOTH.

(B) ENTER THE GENERIC NAME OF THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS NAME WILL APPEAR ON THE PERMIT WHICH MAY BE ISSUED PURSUANT TO THIS APPLICATION. THIS FORM MUST BE ACCOMPANIED BY OTHER APPLICABLE FORMS AND INFORMATION.

(C) PROVIDE A DESIGNATION IN ITEM 7 ABOVE WHICH YOU WOULD LIKE THE AGENCY TO USE FOR IDENTIFICATION OF YOUR EQUIPMENT. YOUR DESIGNATION WILL BE REFERENCED IN CORRESPONDENCE FROM THIS AGENCY RELATIVE TO THIS APPLICATION. YOUR DESIGNATION MUST NOT EXCEED TEN (10) CHARACTERS.

(D) THIS APPLICATION MUST BE SIGNED IN ACCORDANCE WITH PCB REGS., CHAPTER 2, PART 1, RULE 103(a)(4) OR 103(b)(5) WHICH STATES: "ALL APPLICATIONS AND SUPPLEMENTS THERETO SHALL BE SIGNED BY THE OWNER AND OPERATOR OF THE EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT, OR THEIR AUTHORIZED AGENT, AND SHALL BE ACCOMPANIED BY EVIDENCE OF AUTHORITY TO SIGN THE APPLICATION."

IF THE OWNER OR OPERATOR IS A CORPORATION, SUCH CORPORATION MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF THE CORPORATION'S BOARD OF DIRECTORS AUTHORIZING THE PERSONS SIGNING THIS APPLICATION TO CAUSE OR ALLOW THE CONSTRUCTION OR OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

CCC
DMB

9. DOES THIS APPLICATION CONTAIN A PLOT PLAN?
☐ YES ☐ NO SEE PAGE 4 OF 21

IF A PLOT PLAN MAP HAS PREVIOUSLY BEEN SUBMITTED, SPECIFY

AGENCY I.D. NUMBER _____ APPLICATION NUMBER _____

IS THE APPROXIMATE SIZE OF APPLICANT'S PREMISES LESS THAN 1 ACRE?

☐ YES ☒ NO. SPECIFY 200 ACRES

10. DOES THIS APPLICATION CONTAIN A PROCESS FLOW DIAGRAM(S) THAT ACCURATELY AND CLEARLY REPRESENTS CURRENT PRACTICE.

☒ YES ☐ NO

SEE PAGE 5 OF 21

11a. WAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, OWNED OR CONTRACTED FOR, BY THE APPLICANT PRIOR TO APRIL 14, 1972:

☐ YES ☒ NO

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT A, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT WAS IN COMPLIANCE WITH THE RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION PRIOR TO APRIL 14, 1972.

11b. HAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, NOT PREVIOUSLY RECEIVED AN OPERATING PERMIT.

☒ YES ☐ NO SEE PAGE 6 OF 21

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT B, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT
(i) IS ORIGINAL OR ADDITIONAL EQUIPMENT
(ii) REPLACES EXISTING EQUIPMENT, OR
(iii) MODIFIES EXISTING EQUIPMENT
(c) PROVIDES THE ANTICIPATED OR ACTUAL DATES OF THE COMMENCEMENT OF CONSTRUCTION AND THE START-UP OF THE EQUIPMENT

12. IF THIS APPLICATION INCORPORATES BY REFERENCE A PREVIOUSLY GRANTED PERMIT(S), HAS FORM APC-210, "DATA AND INFORMATION--INCORPORATION BY REFERENCE" BEEN COMPLETED.

☐ YES ☒ NO

APPLICATION FOR OPERATING PERMIT ONLY

13. DOES THE STARTUP OF AN EMISSION SOURCE COVERED BY THIS APPLICATION PRODUCE AIR CONTAMINANT EMISSION IN EXCESS OF APPLICABLE STANDARDS:

☐ YES ☒ NO

IF "YES," HAS FORM APC-203, "OPERATION DURING STARTUP" BEEN COMPLETED FOR THIS SOURCE.

☐ YES ☐ NO

14. DOES THIS APPLICATION REQUEST PERMISSION TO OPERATE AN EMISSION SOURCE DURING MALFUNCTIONS OR BREAKDOWNS.

☐ YES ☒ NO

IF "YES," HAS FORM APC-204, "OPERATION DURING MALFUNCTION AND BREAKDOWN" BEEN COMPLETED FOR THIS SOURCE

☐ YES ☐ NO

15. IS AN EMISSION SOURCE COVERED BY THIS APPLICATION SUBJECT TO A FUTURE COMPLIANCE DATE

☐ YES ☒ NO

IF "YES," HAS FORM APC-202, "COMPLIANCE PROGRAM & PROJECT COMPLETION SCHEDULE," BEEN COMPLETED FOR THIS SOURCE

☐ YES ☐ NO

16. DOES THE FACILITY COVERED BY THIS APPLICATION REQUIRE AN EPISODE ACTION PLAN (REFER TO GUIDELINES FOR EPISODE ACTION PLANS)

☐ YES ☒ NO

17. WAS THIS OPERATION THE SUBJECT OF A VARIANCE PETITION FILED WITH THE ILLINOIS POLLUTION CONTROL BOARD ON OR BEFORE JUNE 13, 1972.

☐ YES ☒ NO

IF "YES," CITE PCB NUMBER(S) _____, DATE OF BOARD ORDER _____

WAS CONSTRUCTION OR MODIFICATION OF EQUIPMENT, SUFFICIENT TO ACHIEVE COMPLIANCE WITH THE "RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION" EFFECTIVE PRIOR TO APRIL 14, 1972, COMMENCED PRIOR TO APRIL 14, 1972.

☐ YES ☒ NO

IF "YES," EXPLAIN IN DETAIL, AND IDENTIFY EXPLANATION AS EXHIBIT D.

18. LIST AND IDENTIFY ALL FORMS, EXHIBITS, AND OTHER INFORMATION SUBMITTED AS PART OF THIS APPLICATION. INCLUDE THE PAGE NUMBERS ON EACH ITEM (ATTACH ADDITIONAL SHEETS IF NECESSARY).

SEE PAGE 3 OF 21

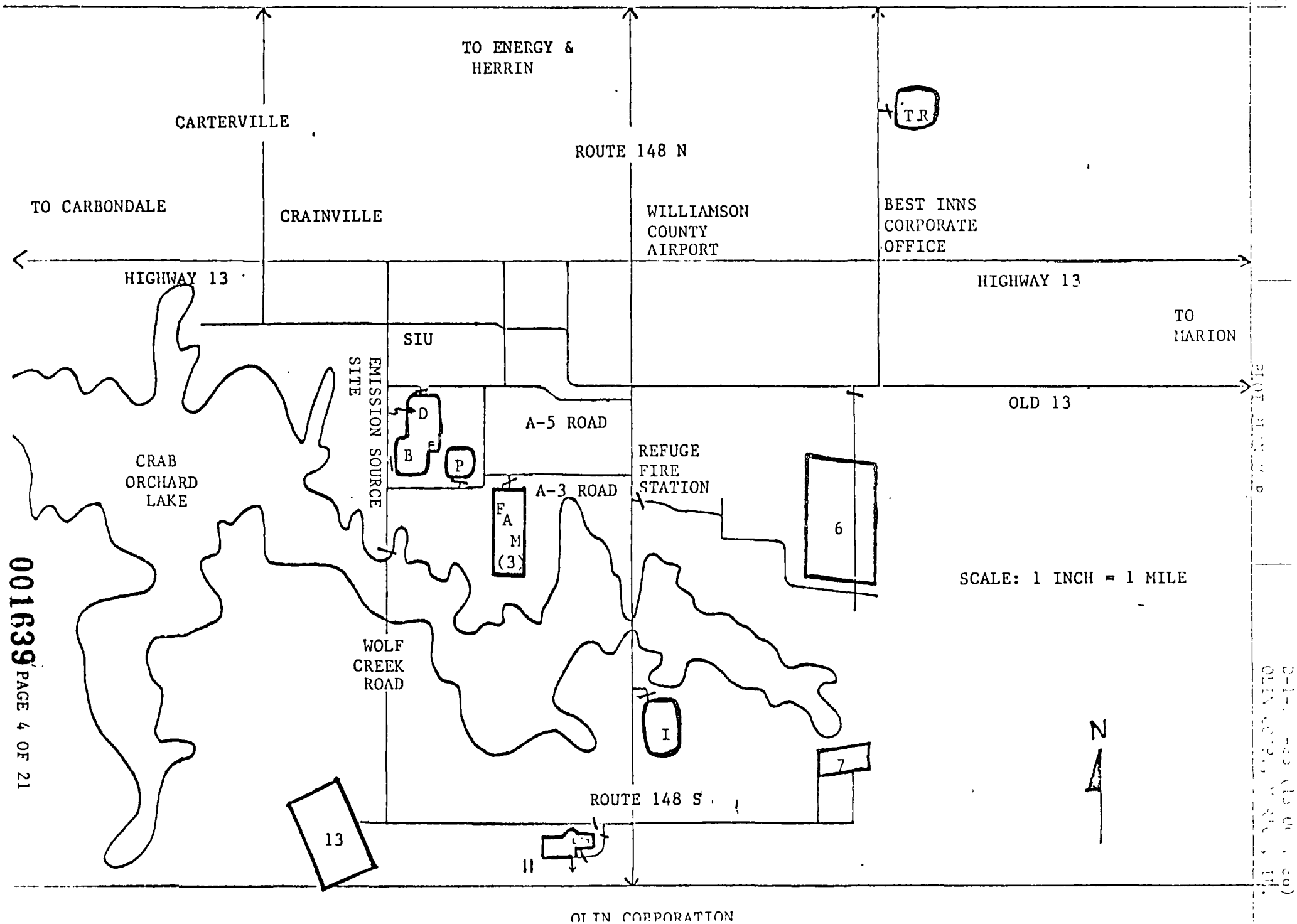
TOTAL NUMBER OF PAGES 21

APC 200: ITEM NO. 18

LIST OF FORMS/EXHIBITS/AND OTHER INFORMATION SUBMITTED AS PART OF THIS APPLICATION.

DESCRIPTION	PAGE NO.
APC 200	1, 2
APC 200: ITEM NO. 18	3
PLOT PLAN/MAP	4
PROCESS FLOW DIAGRAM	5
EXHIBIT B	6
APC 220	7 - 9
APC 260	10 - 15
MANUFACTURER'S DATA	16
DELEGATION OF AUTHORITY	17 - 21

001638

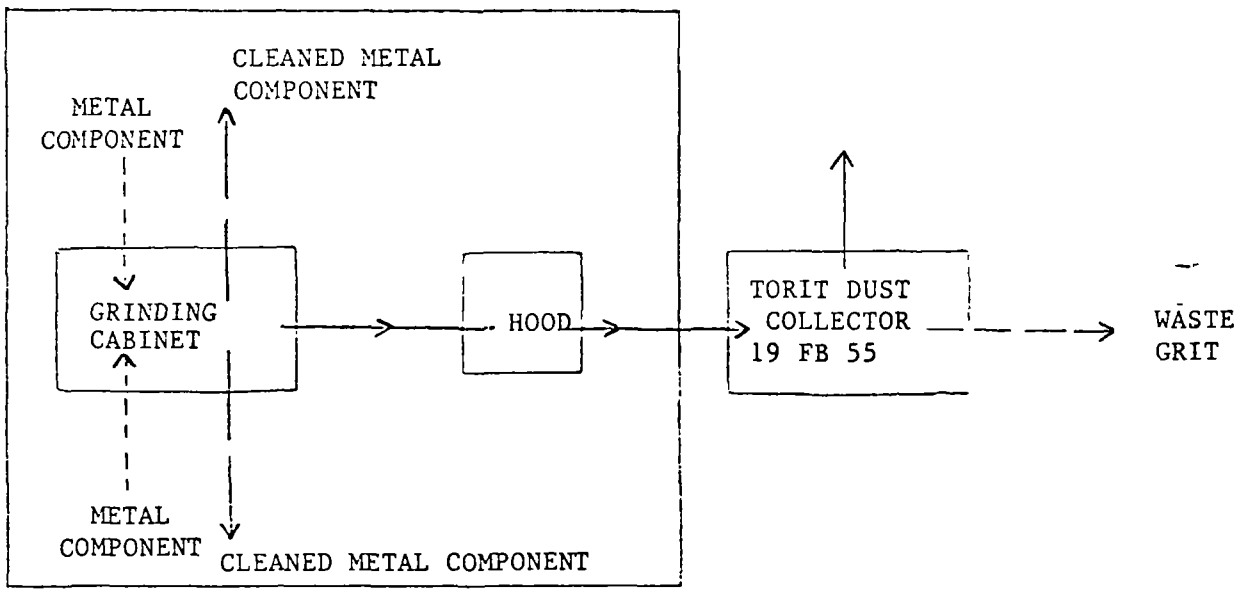


0016399 PAGE 4 OF 21

PROCESS FLOW DIAGRAM: METAL GRINDER

NOTE: TWO (2) EMISSION SOURCES
ONE (1) AIR POLLUTION CONTROL DEVICE

	AVE.	MAX.
INLET/EXIT GAS CONDITION:	75°F	80°F
INLET/EXIT GAS FLOW RATE:	860 SCFM	1200 SCFM
FILTER EFFICIENCY: 98 - 100%		



D-1-7 BAY E

KEY:

——————— AIR FLOW LINES

- - - - - - - - RAW MATERIAL LINES

——— ——— PRODUCT LINES

——— ——— WASTE LINE

COMMENT:

THERE ARE ACTUALLY THREE EMISSION SOURCES, 3 HAND GRINDERS, WITHIN THE GRINDING CABINET; HOWEVER, ONLY A MAXIMUM OF TWO MAY BE OPERATED SIMULTANEOUSLY. THEREFORE THERE MAY BE ONE OR TWO EMISSION SOURCES OCCURRING AT ANY ONE TIME.

EXHIBIT B

a.) DESCRIPTION OF EQUIPMENT:

Olin Corporation maintains a production facility southwest of Marion, Illinois, in a rural area. This facility, Olin designates as the "D" Area, generally is used for the manufacturing of military gas generator propulsion systems and blending of various explosive mixes for these systems and medium caliber ammunition.

The manufacturing of the gas generators requires a grinding operation of certain metal components on specific types of gas generators. The grinding cabinet consists of an enclosed cabinet, with four hand holes, with an exhaust to pull any fine grit into a dust collector. Three hand held grinders are available with the possibility of operating two simultaneously. The function of the operation, if required, is to polish and clean up the surface of a gas generator component to prepare it for effective welding. Air emissions from the operation would be drawn into air pollution control equipment. The equipment to be used is a Torit Cyclone Centrifugal Separator, Model Number 19FB55. As air is drawn through the collector, most waste grit would settle in a 55 gallon drum associated with the dust collector system. Smaller contaminants would be trapped by the fabric filter bag.

b.) EQUIPMENT STATUS:

The equipment concerning this application is already available at the facility.

c.) ANTICIPATED DATES OF COMMENCEMENT OF CONSTRUCTION AND START UP OF THE EQUIPMENT:

Upon approval of the permits.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1/2 Section 1039 Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center

*DATA AND INFORMATION PROCESS EMISSION SOURCE	D-1-7-E-86 (13 OCT. 86) OLIN CORP., MARION, IL.

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER)
OLIN CORPORATION	ORDNANCE PRODUCTS
3. STREET ADDRESS OF EMISSION SOURCE	4. CITY OF EMISSION SOURCE
CRAB ORCHARD WILDLIFE REFUGE	(RURAL) MARION, ILLINOIS

GENERAL INFORMATION

5. NAME OF PROCESS	6. NAME OF EMISSION SOURCE EQUIPMENT	
METAL GRINDER	GRINDER/GRINDER/GRINDER	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER	8. MODEL NUMBER	9. SERIAL NUMBER
DOTCO/DOTCO/DOTCO	10L1200B/10L1000A36/	982526/122055/122053

10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE: 10L1000A36
PROCESS FLOW DIAGRAM: METAL GRINDER (PAGE 5 OF 21)

11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION): N/A

12. AVERAGE OPERATING TIME OF EMISSION SOURCE:	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE.
.5 HRS/DAY 1 DAYS/WK 12 WKS/YR	1 HRS/DAY 2 DAYS/WK 24 WKS/YR

14. PERCENT OF ANNUAL THROUGHPUT:
DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. METAL COMPONENTS	b. 34 LB/HR	c. 68 LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. CLEANED METAL COMPONENTS	b. 33.75 LB/HR	c. 67.5 LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. WASTE GRIT	b. .25 LB/HR	c. .5 LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b.	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

*EMISSION INFORMATION N/A			
51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED)			
AVERAGE OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.
MAXIMUM OPERATION			
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION N/A	
64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:	
65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):	
66. EXIT HEIGHT ABOVE GRADE:	67. EXIT DIAMETER:
68. GREATEST HEIGHT OF NEARBY BUILDINGS. FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY. FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE. °F	72. EXIT GAS TEMPERATURE. °F
71. GAS FLOW RATE THROUGH EACH EXIT: ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

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STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This [illegible] Revised Statutes, [illegible], Chapter [illegible], Section [illegible]039. Disclosure of this information is required under that section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center

*DATA AND INFORMATION AIR POLLUTION CONTROL EQUIPMENT	D-1-7-E-86 (13 OCT. 86) OLIN CORP., MARION, IL.

*THIS INFORMATION FORM IS FOR AN INDIVIDUAL UNIT OF AIR POLLUTION CONTROL EQUIPMENT OR AN AIR POLLUTION CONTROL SYSTEM.

1. NAME OF OWNER OLIN CORPORATION	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) ORDNANCE PRODUCTS
3. STREET ADDRESS OF CONTROL EQUIPMENT CRAB ORCHARD WILDLIFE REFUGE	4. CITY OF CONTROL EQUIPMENT (RURAL) MARION, ILLINOIS
5. NAME OF CONTROL EQUIPMENT OR CONTROL SYSTEM D-1-7-E-86 TORIT CYCLONE CENTRIFUGAL SEPARATOR	

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION.
2. COMPLETE THE APPROPRIATE SECTION FOR THE UNIT OF CONTROL EQUIPMENT, OR THE APPROPRIATE SECTIONS FOR THE CONTROL SYSTEM. BE CERTAIN THAT THE ARRANGEMENT OF VARIOUS UNITS IN A CONTROL SYSTEM IS MADE CLEAR IN THE PROCESS FLOW DIAGRAM.
3. COMPLETE PAGE 6 OF THIS FORM, EMISSION INFORMATION AND EXHAUST POINT INFORMATION.
4. EFFICIENCY VALUES SHOULD BE SUPPORTED WITH A DETAILED EXPLANATION OF THE METHOD OF CALCULATION, THE MANNER OF ESTIMATION, OR THE SOURCE OF INFORMATION. REFERENCE TO THIS FORM ANY RELEVANT INFORMATION OR EXPLANATION INCLUDED IN THIS PERMIT APPLICATION.
5. EFFICIENCY VALUES AND CERTAIN OTHER ITEMS OF INFORMATION ARE TO BE GIVEN FOR AVERAGE AND MAXIMUM OPERATION OF THE SOURCE EQUIPMENT. FOR EXAMPLE, "MAXIMUM EFFICIENCY" IS THE EFFICIENCY OF THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT MAXIMUM OPERATION, AND "AVERAGE FLOW RATE" IS THE FLOW RATE INTO THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT AVERAGE OPERATION.
6. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS", APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY

AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY

MAXIMUM OPERATION - THE GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES

ADSORPTION UNIT N/A	
1. FLOW DIAGRAM DESIGNATION(S) OF ADSORPTION UNIT:	
2. MANUFACTURER.	3. MODEL NAME AND NUMBER
4. ADSORBENT: ☐ ACTIVATED CHARCOAL TYPE _____ ☐ OTHER SPECIFY _____	
5. ADSORBATE(S):	
6. NUMBER OF BEDS PER UNIT	7. WEIGHT OF ADSORBENT PER BED LB
8. DIMENSIONS OF BED THICKNESS _____ IN, SURFACE AREA _____ SQUARE IN	
9. INLET GAS TEMPERATURE °F	10. PRESSURE DROP ACROSS UNIT: INCH H_2O GAUGE
11. TYPE OF REGENERATION ☐ REPLACEMENT ☐ STEAM ☐ OTHER SPECIFY _____	
12. METHOD OF REGENERATION: ☐ ALTERNATE USE OF _____ ENTIRE UNITS ☐ ALTERNATE USE OF _____ BEDS IN A SINGLE UNIT ☐ SOURCE SHUT DOWN ☐ OTHER DESCRIBE	
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
13. TIME ON LINE BEFORE REGENERATION: MIN/BED	15. TIME ON LINE BEFORE REGENERATION: MIN/BED
14. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4): %	16. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4) %

AFTERBURNER N/A	
1. FLOW DIAGRAM DESIGNATION(S) OF AFTERBURNER.	
2. MANUFACTURER	3. MODEL NAME AND NUMBER:
4. COMBUSTION CHAMBER DIMENSIONS: LENGTH _____ IN, CROSS-SECTIONAL AREA _____ SQUARE IN.	
5. INLET GAS TEMPERATURE: °F	7. FUEL ☐ GAS ☐ OIL SULFUR _____ WT%
6. OPERATING TEMPERATURE OF COMBUSTION CHAMBER °F	8. BURNERS PER AFTERBURNER @ BTU/HR EACH
9. CATALYST USED ☐ NO ☐ YES: DESCRIBE CATALYST _____	
10. HEAT EXCHANGER USED: ☐ NO ☐ YES DESCRIBE HEAT EXCHANGER _____	
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
11. GAS FLOW RATE: SCFM	13. GAS FLOW RATE: SCFM
12. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4) %	14. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4) %

CYCLONE

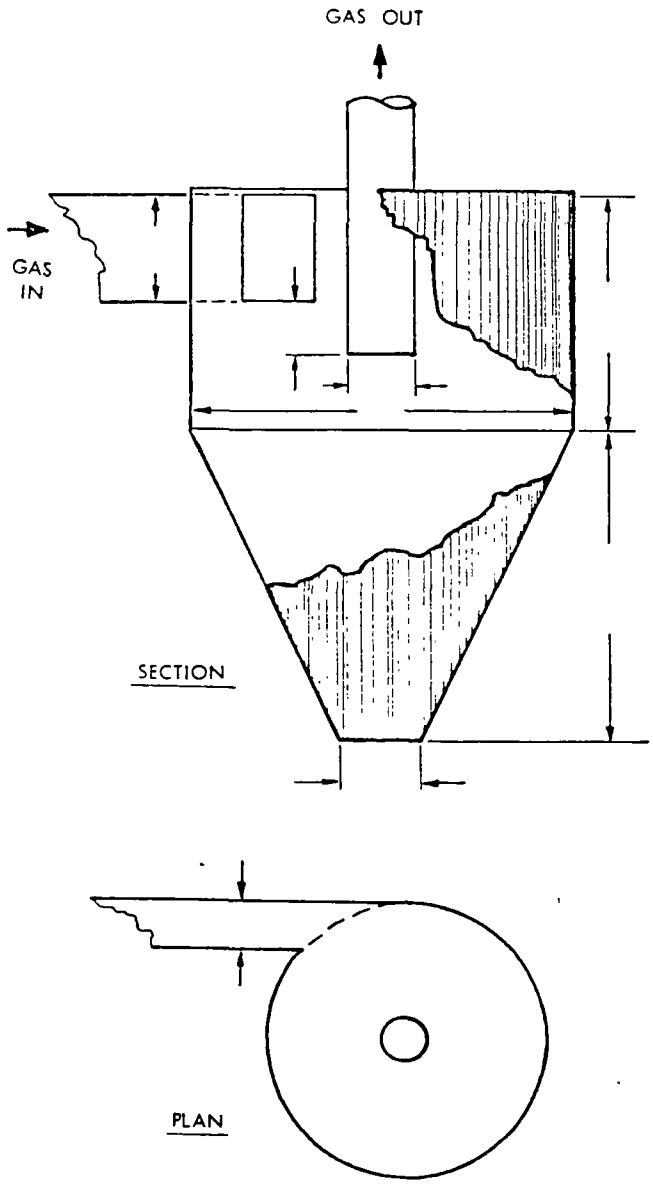
1. FLOW DIAGRAM DESIGNATION(S) OF CYCLONE
PROCESS FLOW DIAGRAM: METAL GRINDER (PAGE 5 OF 21)

2. MANUFACTURER	3. MODEL
TORIT CORPORATION	19FB55
4. TYPE OF CYCLONE: ☒ SIMPLE ☐ MULTIPLE	5. NUMBER OF CYCLONES IN EACH MULTIPLE CYCLONE: ONE

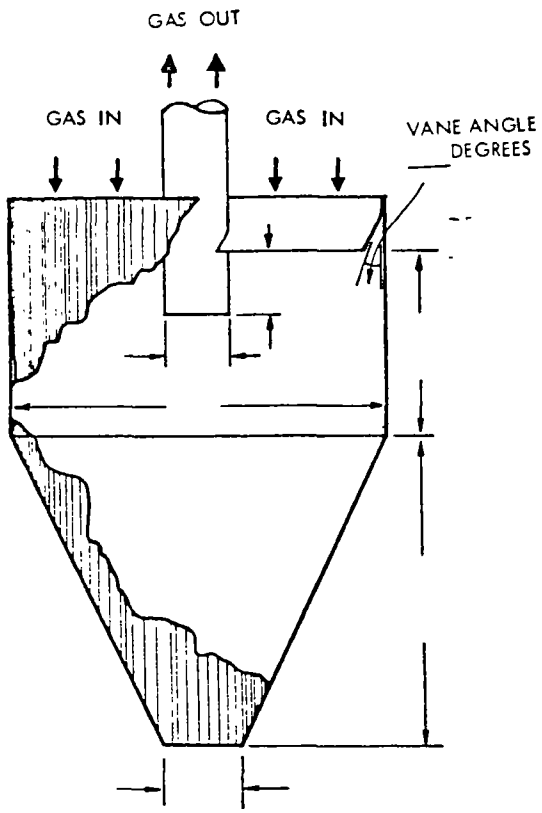
6. DIMENSION THE APPROPRIATE SKETCH (IN INCHES) OR PROVIDE A DRAWING WITH EQUIVALENT INFORMATION:

SEE PAGE 16 OF 21

TANGENTIAL INLET CYCLONE



AXIAL INLET CYCLONE
(INDIVIDUAL CYCLONE OF MULTIPLE CYCLONE)



NOT TO SCALE

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
7. GAS FLOW RATE: 860 SCFM	9. GAS FLOW RATE: 1200 SCFM
8. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): 98 - 100 %	10. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4) 98 - 100 %

MANUFACTURER'S ESTIMATE: 98% EFFICIENT IN REMOVING UNIFORM FLOWS OF 1 MICRON PARTICLES AND 100% EFFICIENT AT 2 MICRONS.

CONDENSER N/A

1. FLOW DIAGRAM DESIGNATION(S) OF CONDENSER

2. MANUFACTURER	3. MODEL NAME AND NUMBER	4. HEAT EXCHANGE AREA FT^2

AVERAGE OPERATION OF SOURCE		MAXIMUM OPERATION OF SOURCE	
5. COOLANT FLOW RATE PER CONDENSER: WATER ____ GPM AIR ____ SCFM OTHER TYPE ____, FLOW RATE ____		10. COOLANT FLOW RATE PER CONDENSER: WATER ____ GPM AIR ____ SCFM OTHER TYPE ____, FLOW RATE ____	
6. GAS FLOW RATE SCFM		11. GAS FLOW RATE SCFM	
7. COOLANT TEMPERATURE INLET ___ °F OUTLET ___ °F	8. GAS TEMPERATURE: INLET ___ °F OUTLET ___ °F	12. COOLANT TEMPERATURE: INLET ___ °F OUTLET ___ °F	13. GAS TEMPERATURE INLET ___ °F OUTLET ___ °F
9. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4) %		14. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4) %	

*ELECTRICAL PRECIPITATOR N/A

1. FLOW DIAGRAM DESIGNATION OF ELECTRICAL PRECIPITATOR:

2. MANUFACTURER:	3. MODEL NAME AND NUMBER:

4. COLLECTING ELECTRODE AREA PER CONTROL DEVICE: FT^2

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
5. GAS FLOW RATE: SCFM	7. GAS FLOW RATE: SCFM
6. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4): %	8. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4): %

SUBMIT THE MANUFACTURER'S SPECIFICATIONS FOR THE ELECTRICAL PRECIPITATOR. REFERENCE THE INFORMATION TO THIS FORM.

*ELECTRICAL PRECIPITATORS VARY GREATLY IN THEIR DESIGN AND IN THEIR COMPLEXITY. THE ITEMS IN THIS SECTION PROVIDE A MINIMUM AMOUNT OF INFORMATION. THE APPLICANT MUST, HOWEVER, SUBMIT WITH THIS APPLICATION THE MANUFACTURER'S SPECIFICATIONS, INCLUDING ANY DRAWINGS, TECHNICAL DOCUMENTS, ETC. IF THE INFORMATION PROVIDED BY THE MANUFACTURER'S SPECIFICATIONS IS INSUFFICIENT FOR FULL AND ACCURATE ANALYSIS, THE AGENCY WILL REQUEST SPECIFIC ADDITIONAL INFORMATION.

FILTER UNIT

1. FLOW DIAGRAM DESIGNATION(S) OF FILTER UNIT:
PROCESS FLOW DIAGRAM: METAL GRINDER (PAGE 5 OF 21)

2. MANUFACTURER:	3. MODEL NAME AND NUMBER.
TORIT CORPORATION	TORIT MODEL NO. 19FB55
4. FILTERING MATERIAL: FELTED DACRON BAG	5. FILTERING AREA: 25 SQUARE FEET

6. CLEANING METHOD:
☐ SHAKER ☐ REVERSE AIR ☐ PULSE AIR ☐ PULSE JET ☒ OTHER: SPECIFY BAG REPLACEMENT

7. GAS COOLING METHOD: ☒ DUCTWORK: LENGTH 14 FT., DIAM 6 IN.
☒ BLEED-IN AIR ☐ WATER SPRAY ☐ OTHER SPECIFY

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. GAS FLOW RATE (FROM SOURCE): 860 SCFM	12. GAS FLOW RATE (FROM SOURCE): 1200 SCFM
9. GAS COOLING FLOW RATE BLEED-IN AIR 860 SCFM, WATER SPRAY N/A GPM	13. GAS COOLING FLOW RATE: BLEED-IN AIR 1200 SCFM, WATER SPRAY N/A GPM
10. INLET GAS CONDITION: TEMPERATURE 75 °F DEWPOINT 55 °F	14. INLET GAS CONDITION: TEMPERATURE 80 °F DEWPOINT 60 °F
11. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): 98-100 %	15. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4) 98-100 %

IL 532-0260 MANUFACTURER'S ESTIMATE: 98% EFFICIENT IN REMOVING UNIFORM FLOWS OF 1
APC 260 MICRON PARTICLES AND 100% EFFICIENT AT 2 MICRONS.

SCRUBBER N/A

1. FLOW DIAGRAM DESIGNATION(S) OF SCRUBBER

2. MANUFACTURER	3. MODEL NAME AND NUMBER

4. TYPE OF SCRUBBER:

☐ HIGH ENERGY GAS STREAM PRESSURE DROP _____ INCH H_2O

☐ PACKED PACKING TYPE _____, PACKING SIZE _____, PACKED HEIGHT _____ IN.

☐ SPRAY: NUMBER OF NOZZLES _____, NOZZLE PRESSURE _____ PSIG

☐ OTHER SPECIFY _____ ATTACH DESCRIPTION AND SKETCH WITH DIMENSIONS

5. TYPE OF FLOW

☐ COCURRENT ☐ COUNTERCURRENT ☐ CROSSFLOW

6. SCRUBBER GEOMETRY:

LENGTH IN DIRECTION OF GAS FLOW _____ IN., CROSS-SECTIONAL AREA _____ SQUARE IN.

7. CHEMICAL COMPOSITION OF SCRUBBANT:

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. SCRUBBANT FLOW RATE: GPM	12. SCRUBBANT FLOW RATE. GPM
9. GAS FLOW RATE: SCFM	13. GAS FLOW RATE: SCFM
10. INLET GAS TEMPERATURE: °F	14. INLET GAS TEMPERATURE: °F
11. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____ % PARTICULATE _____ % GASEOUS	15. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____ % PARTICULATE _____ % GASEOUS

OTHER TYPE OF CONTROL EQUIPMENT N/A

1. FLOW DIAGRAM DESIGNATION(S) OF "OTHER TYPE" OF CONTROL EQUIPMENT:

2. GENERIC NAME OF "OTHER" EQUIPMENT:	3. MANUFACTURER:	4. MODEL NAME AND NUMBER:

5. DESCRIPTION AND SKETCH, WITH DIMENSIONS AND FLOW RATES, OF "OTHER" EQUIPMENT:

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
6. FLOW RATES: _____ GPM _____ SCFM	8. FLOW RATES: _____ GPM _____ SCFM
7. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4): %	9. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4) %

EMISSION INFORMATION

1. NUMBER OF IDENTICAL CONTROL UNITS OR CONTROL SYSTEMS (DESCRIBE AS REQUIRED):
N/A

AVERAGE OPERATION OF SOURCE

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	2a. 6.78×10^{-4} GR/SCF	b. .005 LB/HR	c. CALCULATED ESTIMATE BASED ON PAST EXPERIENCE AND 98% COLLECTOR
CARBON MONOXIDE	3a. PPM (VOL)	b. LB/HR	c. EFFICIENCY
NITROGEN OXIDES	4a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	5a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	6a. PPM (VOL)	b. LB/HR	c.
OTHER (SPECIFY)	7a. PPM (VOL)	b. LB/HR	c.

MAXIMUM OPERATION OF SOURCE

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	8a. 9.72×10^{-4} GR/SCF	b. .01 LB/HR	c. CALCULATED ESTIMATE BASED ON PAST EXPERIENCE AND 98% COLLECTOR
CARBON MONOXIDE	9a. PPM (VOL)	b. LB/HR	c. EFFICIENCY
NITROGEN OXIDES	10a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	11a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	12a. PPM (VOL)	b. LB/HR	c.
OTHER (SPECIFY)	13a. PPM (VOL)	b. LB/HR	c.

**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

EXHAUST POINT INFORMATION

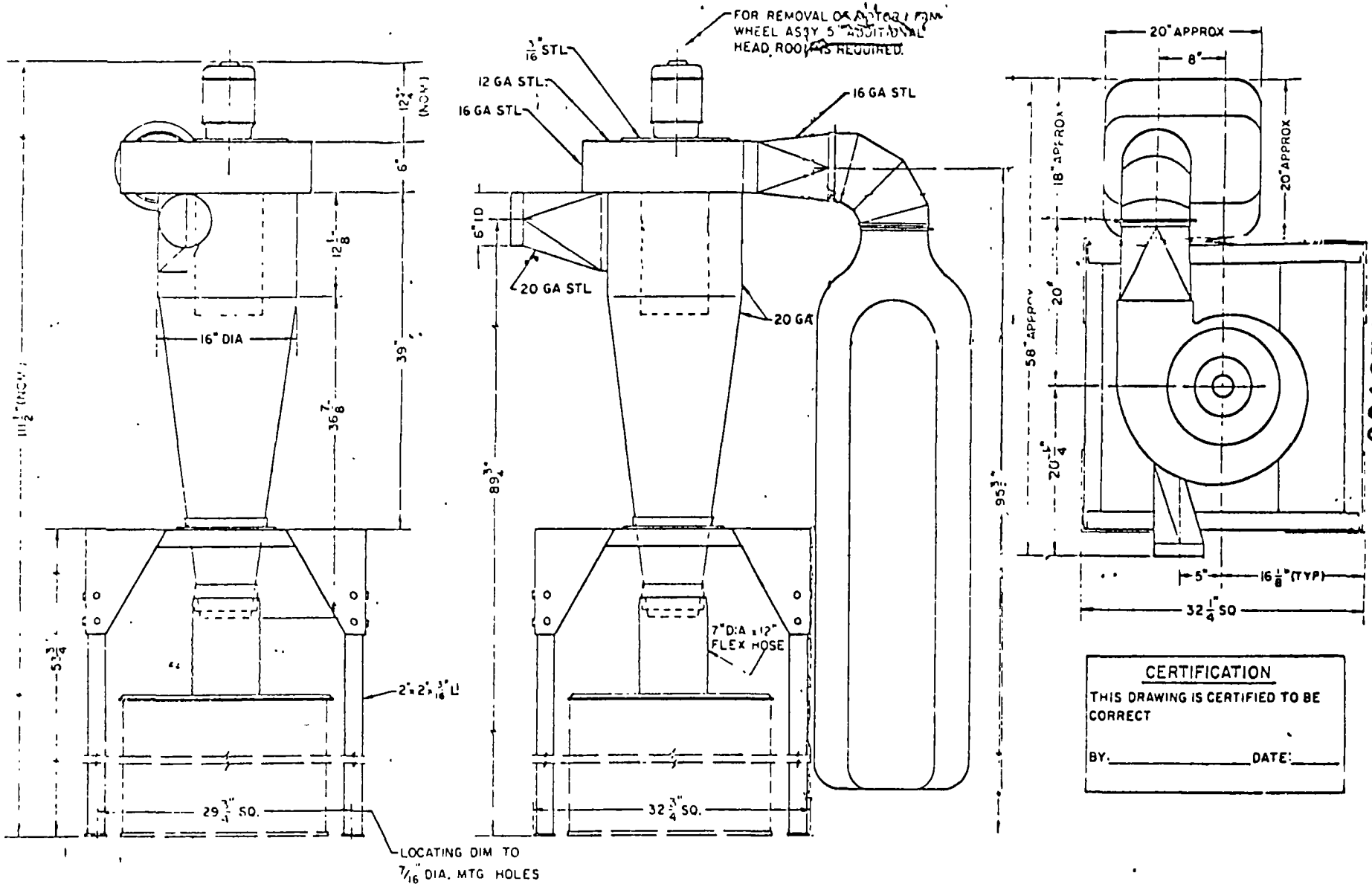
1. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:
PROCESS FLOW DIAGRAM: METAL GRINDER (PAGE 5 OF 21)

2. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):
FINAL DISCHARGE IS TO FILTER BAG OUTSIDE APPROXIMATELY 10 FT. FROM BUILDING

3. EXIT HEIGHT ABOVE GRADE: 8.1 FEET INTO FILTER BAG	4. EXIT DIAMETER: 8 INCHES
5. GREASTEST HEIGHT OF NEARBY BUILDINGS: 30 FT	6. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY 550 FT
AVERAGE OPERATION OF SOURCE	**MAXIMUM OPERATION OF SOURCE**
7. EXIT GAS TEMPERATURE: 75 °F	9. EXIT GAS TEMPERATURE: 80 °F
8. GAS FLOW RATE THROUGH EACH EXIT: 860 ACFM	10. GAS FLOW RATE THROUGH EACH EXIT: 1200 ACFM

D-1-7-E-86 (13 OCT. 86)
OLIN CORP., MARION, IL.

001651



CERTIFICATION

THIS DRAWING IS CERTIFIED TO BE CORRECT

BY:_____ DATE:_____

MULTIPLE RATING TABLES

C F M	VELOCITY (F.P.M.)	EXT S P
4200	6135	4.6"
4100	5600	5.4"
3993	5066	6.6"
3870	4739	7.5"
3800	4386	7.9"

SPECIFICATIONS

1. MOTOR SHALL BE 2HP, 3600 RPM, 230-460/60/3
2. DRUM CAPACITY SHALL BE 7.5 CU FT
3. FILTER AREA SHALL BE 25.0 SQ. FT.
4. INLET: 6" I.D.
5. OUTLET: 8" DIA WITH FLANGED ELL FITTING FOR AFTER FILTER
6. NET WT 365 #, SHIPPING WT 390 #
7. FAN SIZE 13" x 3 3/8", MATL HANDLING DESIGN

NOTES

1. INLET MAY BE ROTATED AT 45° INCREMENTS IN FIELD
2. OUTLET MAY BE ROTATED AT 45° INCREMENTS IN FIELD
3. THIS DRAWING IS FOR A STANDARD 19FB-55 CYCLONE COLLECTOR ANY DEPARTURE FROM THIS DESIGN SHALL REQUIRE SPECIAL FABRICATION & INCREASE IN COST
4. THIS PRINT IS NOT CERTIFIED FOR CONSTRUCTION PURPOSES UNLESS PROPERLY SIGNED BY TORIT ENG. DEPT
5. 55 GAL DRUM IS NOT FURNISHED BY TORIT
6. HT OF MOTOR SUPPLIED OR SPECIFIED MAY VARY FROM NOMINAL HT SHOWN TORIT WILL VERIFY WHERE REQD

TORIT

THE TORIT CORPORATION ST. PAUL, MINN. 55111

SPECIFICATION CONTROL DRAWING

MODEL NO. 19FB-55 CYCLONE

DRAWN: J. Nam

APP'D:

DRWG NO. 19-003

REV E 9 72

OLIN CORPORATION

I, Robert J. Tubbs, Assistant Secretary of OLIN CORPORATION, a Virginia corporation, hereby certify:

that John M. Henske was on June 21, 1983, and is on the date hereof, Chairman of the Board and Chief Executive Officer of the Corporation;

that attached hereto is a true and correct copy of a Delegation of Authority, dated June 21, 1983, by John M. Henske, Chairman of the Board and Chief Executive Officer of the Corporation, to Richard R. Berry, Executive Vice President of the Corporation, that the same has not been rescinded and is in full force and effect, and that Richard R. Berry was on October 25, 1985, and is on the date hereof, Executive Vice President of the Corporation;

that attached hereto is a true and correct copy of a Delegation of Authority, dated October 25, 1985, by Richard R. Berry, Executive Vice President of the Corporation, to D. W. Griffin, Vice President, and President, Winchester Group, of the Corporation, that the same has not been rescinded and is in full force and effect, and that D. W. Griffin was on October 25, 1985, and is on the date hereof, Vice President, and President, Winchester Group, of the Corporation;

that attached hereto is a true and correct copy of a Delegation of Authority, dated October 25, 1985, by D. W. Griffin, Vice President, and President, Winchester Group, of the Corporation, to A. A. Catani, Vice President and General Manager, Defense Products, Winchester Group, of the Corporation, that the same has not been rescinded and is in full force and effect, and that A. A. Catani, was on November 20, 1985, and is on the date hereof, Vice President and General Manager, Defense Products, Winchester Group, of the Corporation;

that attached hereto is a true and correct copy of a Specific Authorization, dated November 20, 1985, by A. A. Catani, Vice President and General Manager, Defense Products, Winchester Group, of the Corporation, to A. Heinz, Director, Ordnance Products, Winchester Group, of the Corporation, that the same has not been rescinded and is in full force and effect, and that A. Heinz, was on November 20, 1985, and is on the date hereof, Director, Ordnance Products, Winchester Group, of the Corporation;

IN WITNESS WHEREOF, I have hereunto set my hand and the seal of OLIN CORPORATION, this 3rd day of December, 1986.

Robert J. Tubbs
Assistant Secretary

001652

DELEGATION OF AUTHORITY

TO

RICHARD R. BERRY

EXECUTIVE VICE PRESIDENT

Pursuant to authority granted me by the Board of Directors of Olin Corporation, I hereby delegate to Richard R. Berry, Executive Vice President, authority to take and approve the taking of any and all actions necessary or advisable in connection with the business of the Corporation and in the usual course of business, including without limitation the execution, delivery and implementation of any and all instruments in writing, such as contracts, agreements, powers of attorney, applications, orders, certificates, leases, licenses, franchises, deeds, bills of sale, assignments, notices, statements, claims, tax returns, settlements, releases, declarations, receipts, bills of lading, letters of credit, indemnities, guarantees and warranties.

The Executive Vice President is hereby authorized to delegate to any officer, employee or agent of the Corporation by written instrument the authority, or any part thereof, herein granted, and such delegation may be general or specific, may authorize redelegation, and shall be subject to such limitations and restrictions as the Executive Vice President may impose.

This instrument supersedes the Delegation of Authority from R. R. Irani, President and Chief Operating Officer, dated April 15, 1983, to Richard R. Berry, Vice President, and President, Brass Group.

John M. Henske
Chairman of the Board and
Chief Executive Officer

Dated: June 21, 1983

Distribution:

Grantor
Grantee
Corporate Secretary (original)
Chief Internal Auditor
Director of Accounting

OLIN CORPORATION

DELEGATION OF AUTHORITY

TO

D. W. GRIFFIN
VICE PRESIDENT, AND PRESIDENT, WINCHESTER GROUP

Pursuant to authority granted to me, I hereby delegate to D. W. Griffin, Vice President, and President, Winchester Group authority to take and approve the taking of any and all actions necessary or advisable in connection with the business of the Winchester Group and in the usual course of business, including without limitation the execution, delivery and implementation of any and all instruments in writing, such as contracts, agreements, powers of attorney, applications, orders, certificates, leases, licenses, franchises, deeds, bills of sale, assignments, notices, statements, claims, tax returns, settlements, releases, declarations, receipts, bills of lading, letters of credit, indemnities, guaranties and warranties.

The Vice President, and President, Winchester Group is hereby authorized to redelegate to any Vice President who may report to the delegating officer, or to the Financial Officer of the Winchester Group, by Delegation of Authority, the authority, or any part thereof, herein granted. In addition, the Vice President, and President, Winchester Group is authorized to redelegate to any other officer or employee within the Winchester Group by written instrument that part of the authority herein delegated which is required for the conduct of the business of the Group for which such other officer or employee is responsible. Such redelegation may be general or specific, and shall be subject to such limitations and restrictions as the delegating officer may impose. Such redelegation shall not authorize further redelegation, except as hereinafter provided. Any Vice President who may report to the delegating officer and said Financial Officer may redelegate to personnel within the organization for which each is respectively responsible, without further right of redelegation, authorization for a specific transaction. The limitations on redelegation set forth herein do not apply to the redelegation of authority given pursuant to grants of operating authority.

This instrument supersedes the Delegation of Authority from Richard R. Berry, Executive Vice President, dated July 6, 1983, to D. W. Griffin, Vice President, and President, Brass Group.

Richard R. Berry
Executive Vice President

Dated: October 25, 1985

Distribution:
Grantor
Grantee
Corporate Secretary (original)
Chief Internal Auditor
Group Counsel
Group Financial Officer
Group Grants Officer

382/d

DELEGATION OF AUTHORITY

TO

A. A. CATANI

VICE PRESIDENT AND GENERAL MANAGER
DEFENSE PRODUCTS, WINCHESTER GROUP

Pursuant to authority granted to me, I hereby delegate to A. A. Catani, Vice President and General Manager, Defense Products, authority to take and approve the taking of any and all actions necessary or advisable in connection with the business of his organization, and in the usual course of such business, including without limitation the execution, delivery and implementation of any and all instruments in writing, such as contracts, agreements, powers of attorney, applications, orders, certificates, leases, licenses, franchises, deeds, bills of sale, assignments, notices, statements, claims, tax returns, settlements, releases, declaration, receipts, bills of lading, letters of credit, indemnities, guarantees and warranties.

This Delegation of Authority does not authorize further redelegation, except that the Vice President and General Manager, Defense Products, may grant to personnel within the organization for which he is responsible, without further right of redelegation, authorization for a specific transaction. The limitations on redelegation set forth herein do not apply to the redelegation of authority given pursuant to grants of operating authority.

This Delegation of Authority supersedes the Delegation of Authority from H. E. Blaine, President, Winchester Group, dated June 10, 1985, to A. A. Catani, Vice President and General Manager, Defense Products, Winchester Group.

Dated: October 25, 1985

D. W. Griffin
President
Winchester Group

Distribution:

Grantor
Grantee
Corporate Secretary (Original Copy)
Chief Internal Auditor
Group Grants Officer
Group Counsel
Group Financial Officer (3)
Internal Audit Department
Director, Purchasing
Corporate International Counsel

Olin

EAST ALTON, ILLINOIS 62024

SPECIFIC AUTHORIZATION

TO

A. HEINZ
DIRECTOR, ORDNANCE PRODUCTS
WINCHESTER GROUP

Pursuant to the authority delegated to me by the Corporate Vice President and President, Winchester Group, I hereby delegate to the above named employee authority to sign applications on behalf of Olin Corporation, Winchester Group, Ordnance Products, Marion, Illinois, for air pollution permits (Form APC 200), as required under the Federal and State of Illinois pollution control laws, rules and regulations.

Grantee is not authorized to redelegate any part of the authority herein granted.

This document supersedes the Specific Authorization dated June 6, 1984, to A. Heinz, Director, Ordnance Products, Winchester Group, by Ivan Kenis, Vice President and General Manager, Defense Products, Winchester Group.

Dated: November 20, 1985

A. A. Catani
Vice President & General Manager
Defense Products
Winchester Group

Distribution
Grantor
Grantee
Corporate Secretary (original)
Chief Internal Auditor
Group Grants Officer
Group Counsel
Internal Audit Dept.

001656

Illinois Environmental Protection Agency • P.O. Box 19276 Springfield IL 62794-9276

217/782-2113

OPERATING PERMIT - REVISED

PERMITTEE

Olin Corporation
Attn: Arthur Heinz
Route 148 South, P.O. Box 278
Marion, Illinois 62959

Application No.: 85010047 I.D. No.: 199862AAB
Applicant's Designation: B-2-13-89 Date Received: July 7, 1989
Subject: Propellant/Inhibitor Mixing & Handling
Date Issued: July 26, 1989 Expiration Date: February 19, 1990
Location: Crab Orchard Wildlife Refuge, Marion

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of a mechanical bag dumper, a mixer, steam vacuum jets and a torit dust collector as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. This permit is issued based upon a minimal hourly emission rate and negligible annual emissions (less than 0.1 ton/year) of particulate matter from the mechanical bag dumper and propellant/Inhibitor mixing.

2. This permit is issued based upon the maximum annual organic material emissions of 1.8 tons/year from the steam vacuum jets. This is based upon the maximum emission rate of 5.9 lbs/hr and operating 595 hours/year.

It should be noted that this permit has been revised to include operation of the equipment described in construction permit 89040088.

Terry A. Sweitzer, P.E.
Manager, Permit Section
Division of Air Pollution Control

TAS:MJP:ds:0357K/8

cc: Region 3

RECEIVED

J. SCHNEIDERMAN

001657

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR OPERATING PERMITS

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special permit condition(s).

1. The issuance of this permit does not release the permittee from compliance with state and federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or with applicable local laws, ordinances and regulations.

2. The Agency has issued this permit based upon the information submitted by the permittee in the permit application. Any misinformation, false statement or mispresentation in the application shall be grounds for revocation under 35 Ill. Adm. Code 201.207.

3. a. The permittee shall not authorize, cause, direct or allow any modification, as defined in 35 Ill. Adm. Code 201.102, of equipment, operations or practices which are reflected in the permit application as submitted unless a new application or request for revision of the existing permit is filed with the Agency and unless a new permit or revision of the existing permit(s) is issued for such modification.

   b. This permit only covers emission sources and control equipment while physically present at the indicated plant location(s). Unless the permit specifically provides for equipment relocation, this permit is void for an item of equipment on the day it is removed from the permitted location(s) or if all equipment is removed, notwithstanding the expiration date specified on the permit.

4. The permittee shall allow any duly authorized agent of the Agency, upon the presentation of credentials, at reasonable times:

   a. to enter the permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,

   b. to have access to and to copy any records required to be kept under the terms and conditions of this permit,

   c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,

   d. to obtain and remove samples of any discharge or emission of pollutants, and

   e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring or recording any activity, discharge or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are located,

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the facilities,

c. does not take into consideration or attest to the structural stability of any unit or part of the project, and

d. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. The facilities covered by this permit shall be operated in such a manner that the disposal of air contaminants collected by the equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

7. The permittee shall maintain all equipment covered under this permit in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

8. The permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment. This record shall be made available to any agent of the Environmental Protection Agency at any time during normal working hours and/or operating hours. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9. No person shall cause or allow continued operation during malfunction, breakdown or startup of any emission source or related air pollution control equipment if such operation would cause a violation of an applicable emission standard or permit limitation. Should a malfunction, breakdown or startup occur which results in emissions in excess of any applicable standard or permit limitation, the permittee shall:

   a. immediately report the incident to the Agency's Regional Field Operations Section Office by telephone, telegraph, or other method as constitutes the fastest available alternative, and shall comply with all reasonable directives of the Agency with respect to the incident;

   b. maintain the following records for a period of no less than two (2) years:

      i. date and duration of malfunction, breakdown or startup,

      ii. full and detailed explanation of the cause,

      iii. contaminants emitted and an estimate of quantity of emissions,

      iv. measures taken to minimize the amount of emissions during the malfunction, breakdown or startup, and

      v. measures taken to reduce future occurrences and frequency of incidents.

10. If the permit application contains a compliance program and project completion schedule, the permittee shall submit a project completion status report within thirty (30) days of any date specified in the compliance program and project completion schedule or at six month intervals, whichever is more frequent.

11. Beginning one year from the date of this permit the permittee shall submit an "Annual Emission Report," form APC-208, as required by 35 Ill. Adm. Code 201.302. (Note: If the permittee has other operating permits for this facility, the "Annual Emission Report" for all such permits may be included in a single annual submission.)

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield IL 62794-9276

217/782-2113

CONSTRUCTION PERMIT

PERMITTEE

Olin Corporation
Attn: Arthur Heinz
Route 148 South, P.O. Box 278
Marion, Illinois 62959

Application No.: 89040088
I.D. No.: 199862AAB
Applicant's Designation: B-2-13-89
Date Received: April 13, 1989
Subject: Mechanical Bag Dumper
Date Issued: July 11, 1989
Location: Crab Orchard Wildlife Refuge, Marion

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of mechanical bag dumper as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. This permit is issued based upon a minimal hourly emission rate and negligible annual emissions (less than 0.1 ton/year) of particulate matter from the mechanical bag dumper.

Terry A. Sweitzer, P.E.
Manager, Permit Section
Division of Air Pollution Control

TAS:MJP:ds:0339K/49

cc: Region 3

RECEIVED

JUL 13 1989

J. SCHNEIDERMAN

001660

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) authorizes the Environmental Protection Agency to impose conditions on permits which it issues.

The following conditions are applicable unless susperseded by special condition(s).

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year from the date of issuance, unless a continuous program of construction or development on this project has started by such time.

2. The construction or development covered by this permit shall be done in compliance with applicable provisions of the Illinois Environmental Protection Act and Regulations adopted by the Illinois Pollution Control Board.

3. There shall be no deviations from the approved plans and specifications unless a written request for modification, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.

4. The permittee shall allow any duly authorized agent of the Agency upon the presentation of credentials, at reasonable times:

   a. to enter the permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,

   b. to have access to and to copy any records required to be kept under the terms and conditions of this permit,

   c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,

   d. to obtain and remove samples of any discharge or emissions of pollutants, and

   e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located,

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities,

   c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations,

   d. does not take into consideration or attest to the structural stability of any units or parts of the project, and

e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. a. Unless a joint construction/operation permit has been issued, a permit for operation shall be obtained from the Agency before the equipment covered by this permit is placed into operation.

   b. For purposes of shakedown and testing, unless otherwise specified by a special permit condition, the equipment covered under this permit may be operated for a period not to exceed thirty (30) days.

7. The Agency may file a complaint with the Board for modification, suspension or revocation of a permit:

   a. upon discovery that the permit application contained misrepresentations, misinformation or false statements or that all relevant facts were not disclosed, or

   b. upon finding that any standard or special conditions have been violated, or

   c. upon any violations of the Environmental Protection Act or any regulation effective thereunder as a result of the construction or development authorized by this permit.

Illinois Environmental Protection Agency • P.O. Box 19276 Springfield IL 62794-9276

217/782-2113

OPERATING PERMIT

PERMITTEE

Olin Corporation
Attn: Arthur Heinz
Route 148 South, P.O. Box 278
Marion, Illinois 62959

Application No.: 85010047 I.D. No.: 199862AAB
Applicant's Designation: B-2-13-89 Date Received: April 13, 1989
Subject: Propellant Mixing & Handling
Date Issued: July 10, 1989 Expiration Date: February 19, 1990
Location: Crab Orchard Wildlife Refuge, Marion

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of a mechanical bag dumper, a mixer, steam vacuum jets and a torit dust collector as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. This permit is issued based upon a minimal hourly emission rate and negligible annual emissions (less than 0.1 ton/year) of particulate matter from the mechanical bag dumper and propellant mixing.

2. This permit is issued based upon the maximum annual organic material emissions of 1.8 tons/year from the steam vacuum jets. This is based upon the maximum emission rate of 5.9 lbs/hr and operating 595 hours/year.

It should be noted that this permit has been revised to include operation of the equipment described in construction permit 89040088.

Terry A. Sweitzer, P.E.
Manager, Permit Section
Division of Air Pollution Control

TAS:MJP:ds:0357K/8

cc: Region 3

RECEIVED
J. SCHNEIDERMAN

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR OPERATING PERMITS

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special permit condition(s).

1. The issuance of this permit does not release the permittee from compliance with state and federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or with applicable local laws, ordinances and regulations.

2. The Agency has issued this permit based upon the information submitted by the permittee in the permit application. Any misinformation, false statement or mispresentation in the application shall be grounds for revocation under 35 Ill. Adm. Code 201.207.

3. a. The permittee shall not authorize, cause, direct or allow any modification, as defined in 35 Ill. Adm. Code 201.102, of equipment, operations or practices which are reflected in the permit application as submitted unless a new application or request for revision of the existing permit is filed with the Agency and unless a new permit or revision of the existing permit(s) is issued for such modification.

   b. This permit only covers emission sources and control equipment while physically present at the indicated plant location(s). Unless the permit specifically provides for equipment relocation, this permit is void for an item of equipment on the day it is removed from the permitted location(s) or if all equipment is removed, notwithstanding the expiration date specified on the permit.

4. The permittee shall allow any duly authorized agent of the Agency, upon the presentation of credentials, at reasonable times:

   a. to enter the permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,

   b. to have access to and to copy any records required to be kept under the terms and conditions of this permit,

   c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,

   d. to obtain and remove samples of any discharge or emission of pollutants, and

   e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring or recording any activity, discharge or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are located,

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the facilities,

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c. does not take into consideration or attest to the structural stability of any unit or part of the project, and

d. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. The facilities covered by this permit shall be operated in such a manner that the disposal of air contaminants collected by the equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

7. The permittee shall maintain all equipment covered under this permit in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

8. The permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment. This record shall be made available to any agent of the Environmental Protection Agency at any time during normal working hours and/or operating hours. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9. No person shall cause or allow continued operation during malfunction, breakdown or startup of any emission source or related air pollution control equipment if such operation would cause a violation of an applicable emission standard or permit limitation. Should a malfunction, breakdown or startup occur which results in emissions in excess of any applicable standard or permit limitation, the permittee shall:

   a. immediately report the incident to the Agency's Regional Field Operations Section Office by telephone, telegraph, or other method as constitutes the fastest available alternative, and shall comply with all reasonable directives of the Agency with respect to the incident;

   b. maintain the following records for a period of no less than two (2) years:

      i. date and duration of malfunction, breakdown or startup,

      ii. full and detailed explanation of the cause,

      iii. contaminants emitted and an estimate of quantity of emissions,

      iv. measures taken to minimize the amount of emissions during the malfunction, breakdown or startup, and

      v. measures taken to reduce future occurrences and frequency of incidents.

10. If the permit application contains a compliance program and project completion schedule, the permittee shall submit a project completion status report within thirty (30) days of any date specified in the compliance program and project completion schedule or at six month intervals, whichever is more frequent.

11. Beginning one year from the date of this permit the permittee shall submit an "Annual Emission Report," form APC-208, as required by 35 Ill. Adm. Code 201.302. (Note: If the permittee has other operating permits for this facility, the "Annual Emission Report" for all such permits may be included in a single annual submission.)

Olin
ORDNANCE

MARION OPERATIONS

July 6, 1989

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

ATTENTION: Mr. Terry Sweitzer, P.E.
Manager, Permits Section

REFERENCE: Olin Corporation I.D. No. 199862AAB
Application No. 85010047
Propellant/Inhibitor Mixing and Handling

Gentlemen:

Olin Corporation requests that the attached pages (marked Rev. A 7/89) supercede the pages for the above referenced air permit modification currently under review by your office.

This operation will be changed from a propellant mixing and handling operation to a propellant and inhibitor mixing and handling operation. The revision pages reflect the addition of the inhibitor mixing and handling operation.

The majority of the changes are only in the incorporation of the inhibitor process as stated in the previous paragraph. Changes in actual numbers are on pages 6, 8, 9, and 12.

If additional information or clarification is required, please contact the undersigned. Due to organizational changes, please note that new Delegation of Authority letters are attached.

Very truly yours,

R. R. Hudson
Manager, Administration

cc
CCL:RH/rmn

Enclosure

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1/2, Section 1033. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

APPLICATION FOR A PERMIT (A)

[X] CONSTRUCT [X] OPERATE

Name change →

PROPELLANT/INHIBITOR MIXING AND HANDLING (B)

FOR AGENCY USE ONLY

I. D. NO. _____

PERMIT NO. _____

DATE _____

1a. NAME OF OWNER:		2a. NAME OF OPERATOR:	
OLIN CORPORATION		OLIN CORPORATION	
1b. STREET ADDRESS OF OWNER:		2b. STREET ADDRESS OF OPERATOR:	
ROUTE 148 SOUTH, P.O. BOX 278		ROUTE 148 SOUTH, P.O. BOX 278	
1c. CITY OF OWNER:		2c. CITY OF OPERATOR:	
MARION		MARION	
1d. STATE OF OWNER:	1e. ZIP CODE:	2d. STATE OF OPERATOR:	2e. ZIP CODE:
ILLINOIS	62959	ILLINOIS	62959

3a. NAME OF CORPORATE DIVISION OR PLANT:		3b. STREET ADDRESS OF EMISSION SOURCE:		
MARION OPERATIONS		CRAB ORCHARD WILDLIFE REFUGE		
3c. CITY OF EMISSION SOURCE:	3d. LOCATED WITHIN CITY LIMITS: [ ] YES [X] NO	3e. TOWNSHIP:	3f. COUNTY:	3g. ZIP CODE:
RURAL MARION		N/A	WILLIAMSON	62959

4. ALL CORRESPONDENCE TO: (TITLE AND/OR NAME OF INDIVIDUAL)	5. TELEPHONE NUMBER FOR AGENCY TO CALL:
R. R. HUDSON, MANAGER, ADMINISTRATION	(618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) [X] OWNER: [ ] OPERATOR [ ] EMISSION SOURCE	7. YOUR DESIGNATION FOR THIS APPLICATION: (C) B-2-13-89

new authorized signature

APPLICATION FOR A PERMIT AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND OBVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. TO HE FURTHER CERTIFIES THAT HE IS AUTHORIZED TO EXECUTE THIS APPLICATION.

AUTHORIZED SIGNATURE(S): (D)

BY _____ 7/6/89
SIGNATURE DATE

R. R. HUDSON
TYPED OR PRINTED NAME OF SIGNER

MANAGER, ADMINISTRATION
TITLE OF SIGNER

BY _____ _____
SIGNATURE DATE

_____
TYPED OR PRINTED NAME OF SIGNER

_____
TITLE OF SIGNER

(A) THIS FORM IS TO PROVIDE THE AGENCY WITH GENERAL INFORMATION ABOUT THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS FORM MAY ONLY BE USED TO REQUEST ONE TYPE OF PERMIT - CONSTRUCTION OR OPERATION - AND NOT BOTH.

(B) ENTER THE GENERIC NAME OF THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS NAME WILL APPEAR ON THE PERMIT WHICH MAY BE ISSUED PURSUANT TO THIS APPLICATION. THIS FORM MUST BE ACCOMPANIED BY OTHER APPLICABLE FORMS AND INFORMATION.

(C) PROVIDE A DESIGNATION IN ITEM 7 ABOVE WHICH YOU WOULD LIKE THE AGENCY TO USE FOR IDENTIFICATION OF YOUR EQUIPMENT. YOUR DESIGNATION WILL BE REFERENCED IN CORRESPONDENCE FROM THIS AGENCY RELATIVE TO THIS APPLICATION. YOUR DESIGNATION MUST NOT EXCEED TEN (10) CHARACTERS.

(D) THIS APPLICATION MUST BE SIGNED IN ACCORDANCE WITH PCB REGS., CHAPTER 2, PART 1, RULE 103(a)(4) OR 103(b)(5) WHICH STATES: "ALL APPLICATIONS AND SUPPLEMENTS THERETO SHALL BE SIGNED BY THE OWNER AND OPERATOR OF THE EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT, OR THEIR AUTHORIZED AGENT, AND SHALL BE ACCOMPANIED BY EVIDENCE OF AUTHORITY TO SIGN THE APPLICATION."

IF THE OWNER OR OPERATOR IS A CORPORATION, SUCH CORPORATION MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF THE CORPORATION'S BOARD OF DIRECTORS AUTHORIZING THE PERSONS SIGNING THIS APPLICATION TO CAUSE OR ALLOW THE CONSTRUCTION OR OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

cc

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☐ YES ☐ NO SEE PAGE 4 OF 27

IF A PLOT PLAN/MAP HAS PREVIOUSLY BEEN SUBMITTED, SPECIFY

AGENCY I.D. NUMBER _____ APPLICATI No change on this page.

IS THE APPROXIMATE SIZE OF APPLICANT'S PREMISES LESS THAN 1 ACRE?

☐ YES ☒ NO: SPECIFY 200 ACRES

10. DOES THIS APPLICATION CONTAIN A PROCESS FLOW DIAGRAM(S) THAT ACCU IRRENT PRACTICE.

☒ YES ☐ NO

SEE PAGE 11 OF 27

11a. WAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, OWNED OR CONTRACTED FOR, BY THE APPLICANT PRIOR TO APRIL 14, 1972.

☐ YES ☒ NO

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT A, THAT:

(a) LISTS OR DESCRIBES THE EQUIPMENT

(b) STATES WHETHER THE EQUIPMENT WAS IN COMPLIANCE WITH THE RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION PRIOR TO APRIL 14, 1972.

11b. HAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, NOT PREVIOUSLY RECEIVED AN OPERATING PERMIT:

☒ YES ☐ NO

SEE PAGE 3 OF 27

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT B, THAT.

(a) LISTS OR DESCRIBES THE EQUIPMENT

(b) STATES WHETHER THE EQUIPMENT

(i) IS ORIGINAL OR ADDITIONAL EQUIPMENT

(ii) REPLACES EXISTING EQUIPMENT, OR

(iii) MODIFIES EXISTING EQUIPMENT

(c) PROVIDES THE ANTICIPATED OR ACTUAL DATES OF THE COMMENCEMENT OF CONSTRUCTION AND THE START-UP OF THE EQUIPMENT

12. IF THIS APPLICATION INCORPORATES BY REFERENCE A PREVIOUSLY GRANTED PERMIT(S), HAS FORM APC-210, "DATA AND INFORMATION--INCORPORATION BY REFERENCE" BEEN COMPLETED.

☐ YES ☒ NO

APPLICATION FOR OPERATING PERMIT ONLY

13. DOES THE STARTUP OF AN EMISSION SOURCE COVERED BY THIS APPLICATION PRODUCE AIR CONTAMINANT EMISSION IN EXCESS OF APPLICABLE STANDARDS:

☐ YES ☒ NO

IF "YES," HAS FORM APC-203, "OPERATION DURING STARTUP" BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

14. DOES THIS APPLICATION REQUEST PERMISSION TO OPERATE AN EMISSION SOURCE DURING MALFUNCTIONS OR BREAKDOWNS:

☐ YES ☒ NO

IF "YES," HAS FORM APC-204, "OPERATION DURING MALFUNCTION AND BREAKDOWN" BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

15. IS AN EMISSION SOURCE COVERED BY THIS APPLICATION SUBJECT TO A FUTURE COMPLIANCE DATE:

☐ YES ☒ NO

IF "YES," HAS FORM APC-202, "COMPLIANCE PROGRAM & PROJECT COMPLETION SCHEDULE," BEEN COMPLETED FOR THIS SOURCE:

☐ YES ☐ NO

16. DOES THE FACILITY COVERED BY THIS APPLICATION REQUIRE AN EPISODE ACTION PLAN (REFER TO GUIDELINES FOR EPISODE ACTION PLANS):

☐ YES ☒ NO

17. WAS THIS OPERATION THE SUBJECT OF A VARIANCE PETITION FILED WITH THE ILLINOIS POLLUTION CONTROL BOARD ON OR BEFORE JUNE 13, 1972:

☐ YES ☒ NO

IF "YES," CITE: PCB NUMBER(S) _____, DATE OF BOARD ORDER _____

WAS CONSTRUCTION OR MODIFICATION OF EQUIPMENT, SUFFICIENT TO ACHIEVE COMPLIANCE WITH THE "RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION" EFFECTIVE PRIOR TO APRIL 14, 1972, COMMENCED PRIOR TO APRIL 14, 1972:

☐ YES ☒ NO

IF "YES," EXPLAIN IN DETAIL, AND IDENTIFY EXPLANATION AS EXHIBIT D.

18. LIST AND IDENTIFY ALL FORMS, EXHIBITS, AND OTHER INFORMATION SUBMITTED AS PART OF THIS APPLICATION. INCLUDE THE PAGE NUMBERS ON EACH ITEM (ATTACH ADDITIONAL SHEETS IF NECESSARY):

	PAGE NO.
APC 200	1-2
EXHIBIT B	3
PLOT PLAN/MAP	4
APC 220 - HOODS, BAG DUMP STATION (S1, S3, S4)	5-7
APC 220 - STEAM VACUUM JETS (S5, S6)	8-10
PROCESS FLOW DIAGRAM	11
MATERIAL CONSTITUENTS	12
APC 260	13-18
MANUFACTURER'S INFORMATION	19-21
APC 103	22-23
DELEGATION OF AUTHORITY	24-27

TOTAL NUMBER OF PAGES 27

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EXHIBIT B

a.) DESCRIPTION OF EQUIPMENT:

Olin maintains a production facility southwest of Marion, Illinois, in a rural area. This facility, Olin designates as the "B" and "D" areas, generally is used for the manufacturing of military gas generator propulsion systems and blending of various explosive mixes for these systems and medium caliber ammunition.

The manufacturing of the gas generators requires the mixing and handling of new materials to process an ammonium nitrate based solid propellant and also inhibitor mixes. The air emissions from the mixing process are vented through two (2) hoods and drawn through air pollution control equipment and the filtered air is recirculated into the building. The air emissions from the raw material bag dump station will also be directly vented through the same air pollution control equipment as the mixer. The raw material station will be changed from a manual operation to the use of a mechanical bag dumper. The air pollution equipment consists of a Torit dust collector model 124 - 7½ H which utilizes high collection efficiency fabric filters. As air is drawn through the collector, most dust and collected materials settle into the hopper base. Smaller contaminants are trapped against the outside surface of the filters.

The only change to this page is the addition of the underlined words.

Associated with the mixer is a steam jet vacuum system which draws a vacuum on the mixing process. This system exhausts through a one (1) inch pipe extending approximately four (4) feet above the building roof.

b.) EQUIPMENT STATUS:

All of the equipment is available at the plant.

c.) ANTICIPATED DATES OF COMMENCEMENT AND START UP OF THE EQUIPMENT:

It is anticipated that construction would commence May 15, 1989 or earlier, provided a construction permit is granted. Start up would commence May 31, 1989 or earlier, provided an operating permit is granted.

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STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

Revised Statutes 1979 Ch. 111 1/2 Section 1009 Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center

DATA AND INFORMATION PROCESS EMISSION SOURCE SUBSOURCES S1, S3, S4 - HOODS, BAG DUMP STATION	B-2-13-89 (4-12-89) APC 200: CONSTRUCT/OPERATE OLIN CORP., MARION, ILLINOIS

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER)
OLIN CORPORATION	MARION OPERATIONS
3. STREET ADDRESS OF EMISSION SOURCE:	4. CITY OF EMISSION SOURCE
CRAB ORCHARD WILDLIFE REFUGE	RURAL MARION

Name Change ↓

GENERAL INFORMATION

5. NAME OF PR	6. NAME OF EMISSION SOURCE EQUIPMENT	
PROPELLANT/INHIBITOR MIXING AND HANDLING	200 GALLON MIXER/DUSTLESS BAG DUMPER	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER	8. MODEL NUMBER.	9. SERIAL NUMBER:
BAKER-PERKINS/EPEC	17WUEM/DBDM-FRP	52739/NA

10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE
SEE PAGE 11 OF 27

11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION) 50 GALLON MIXER (APPLICATION DESIGNATION B-2-15-89)

12. AVERAGE OPERATING TIME OF EMISSION SOURCE:	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE
6 HRS/DAY 5 DAYS/WK 50 WKS/YR	14 HRS/DAY 7 DAYS/WK 50 WKS/YR

14. PERCENT OF ANNUAL THROUGHPUT:
DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION

NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. AN PROPELLANT	b. 400.235 LB/HR	c. 963.26 LB/HR
21a. INHIBITOR MIX	b. 1500.235 LB/HR	c. 1500.26 LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

INHIBITOR MIX information added to this page.

PRODUCT INFORMATION

NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. AN PROPELLANT	b. 400 LB/HR	c. 963 LB/HR
31a. INHIBITOR MIX	b. 1500 LB/HR	c. 1800 LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION

NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. AN PROPELLANT/INHIBITOR MIX	b. 0.47 LB/HR	c. 0.52 LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A

FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b.	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB

d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR

e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

Revised Statutes 1979 Chapter 111 1/2 Section 1203. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center

*DATA AND INFORMATION PROCESS EMISSION SOURCE SUBSOURCES S5, S6 - STEAM JETS EXHAUST	B-2-13-89 (4-12-89) APC 200: CONSTRUCT/OPERATE OLIN CORP., MARION, ILLINOIS

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMAPILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER.	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER)
OLIN CORPORATION	MARION OPERATIONS
3. STREET ADDRESS OF EMISSION SOURCE.	4. CITY OF EMISSION SOURCE:
CRAB ORCHARD WILDLIFE REFUGE	RURAL MARION

Name change ↓

GENERAL INFORMATION

5. NAME	6. NAME OF EMISSION SOURCE EQUIPMENT	
PROPELLANT/INHIBITOR MIXING AND HANDLING	200 GALLON MIXER	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER	8. MODEL NUMBER	9. SERIAL NUMBER
BAKER PERKINS	17WUEM	52739

10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE:
SEE PAGE 11 OF 27

11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION) 50 GA increased APPLICATION DESIGNATION B-2-15-89)

increased from 1.3 →

AVERAGE OPERATING TIME OF EMISSION SOURCE: 3 HRS/DAY 5 DAYS/WK 50 WKS/YR

from 1.7 →

MAXIMUM OPERATING TIME OF EMISSION SOURCE: 7 HRS/DAY 7 DAYS/WK 50 WKS/YR

PERCENT OF ANNUAL THROUGHPUT: DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. AN PROPELLANT	b. 407.575 LB/HR	c. 966.175 LB/HR
21a. INHIBITOR MIX	b. 1502.525 LB/HR	c. 1803.175 LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

INHIBITOR MIX information added to this page.

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. AN PROPELLANT	b. 400 LB/HR	c. 963 LB/HR
31a. INHIBITOR MIX	b. 1500 LB/HR	c. 1800 LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. WASTE THROUGH STEAM JETS	b. 5.05 LB/HR	c. 6.35 LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

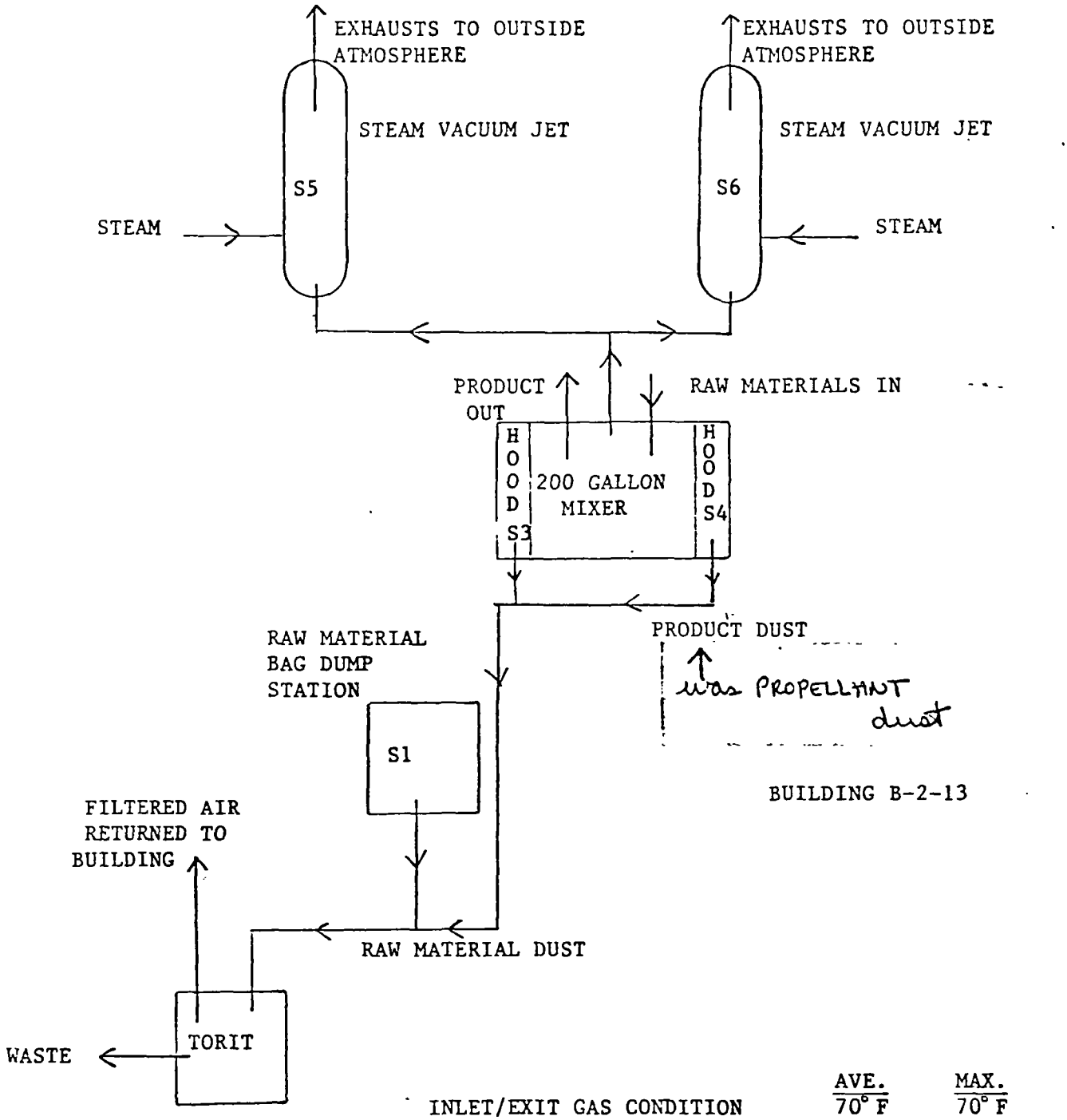
*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b. ———	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

Name change

PROCESS FLOW DIAGRAM: PROPELLANT/INHIBITOR MIXING AND HANDLING

NOTE: 5 (FIVE) EMISSION SUBSOURCES: S1, S3, S4, S5, S6
1 (ONE) AIR POLLUTION CONTROL DEVICE FOR S1, S3, S4:
TORIT DUST COLLECTOR



	AVE.	MAX.
INLET/EXIT GAS CONDITION	70° F	70° F
INLET/EXIT GAS FLOW RATE	2200 SCFM	2900 SCFM
FILTER UNIT EFFICIENCY:	99.9%	

MATERIAL CONSTITUENTS

Propellant

Constituent	Range %
Ammonium Nitrate	58.55 - 79.5
Polybutadiene Acrylic Acid	0 - 14.5
Guanidine Nitrate	0 - 5.25
Ammonium Oxalate	0 - 5.75
Sodium Barbiturate	0.9 - 2.2
Carbon Black	1.9 - 3.1
Acetyltriethyl Citrate	0 - 12.1
2,4-Dinitrophenoxyethanol (DNPE)	0 - 10.7
Toluene - 2,4-Diamine	0 - 1.0
N-Phenylmorpholine	0 - 1.0
Cellulose Acetate	0 - 11.6
Ammonium Ferri-Ferro-Cyanide (Milori Blue)	0 - 1.0
Melamine	0 - 6.0
Hexane (Mixing Aid)	0 - 45 gallons

Inhibitor

Ammonium Oxalate	66 - 89
2,4-Dinitrophenoxyethanol (DNPE)	8 - 12
Acetyltriethyl Citrate	8 - 12
Cellulose Acetate	8 - 12

Inhibitor Constituents added to this page.

001675

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1/2 Section 1039 Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center

name change ↓

DISPOSITION OF WASTE MATERIALS(A)

NAME OF EQUIPMENT OR PROCESS TO BE CONSTRUCTED OR OPERATED (B): PROPELLANT/INHIBITOR MIXING AND HANDLING

FOR AGENCY USE ONLY

REFERENCE I.D. NO. _____

REFERENCE PERMIT NO. _____

DATE _____

1a. NAME OF OWNER:		2a. NAME OF OPERATOR:	
OLIN CORPORATION		OLIN CORPORATION	
1b. STREET ADDRESS OF OWNER:		2b. STREET ADDRESS OF OPERATOR:	
P.O. BOX 278, ROUTE 148 SOUTH		P.O. BOX 278, ROUTE 148 SOUTH	
1c. CITY OF OWNER:		2c. CITY OF OPERATOR:	
MARION		MARION	
1d. STATE OF OWNER:	1e. ZIP CODE:	2d. STATE OF OPERATOR:	2e. ZIP CODE:
ILLINOIS	62959	ILLINOIS	62959

3a. NAME OF CORPORATE DIVISION OR PLANT:		3b. STREET ADDRESS OF EMISSION SOURCE:		
MARION OPERATIONS		CRAB ORCHARD WILDLIFE REFUGE		
3c. CITY OF EMISSION SOURCE:	3d. LOCATED WITHIN CITY LIMITS: ☐ YES ☒ NO	3e. TOWNSHIP:	3f. COUNTY:	3g. ZIP CODE:
RURAL MARION		N/A	WILLIAMSON	62959

4. ALL CORRESPONDENCE TO: (NAME OF INDIVIDUAL)	5. TELEPHONE NUMBER FOR AGENCY TO CALL:
R. R. HUDSON	(618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) ☒ OWNER ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR ID NUMBER FOR THIS APPLICATION:(C) B-2-13-89

(A) THIS FORM IS TO BE COMPLETED FOR ANY STATIONARY EMISSION SOURCE THAT WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL THAT MAY BE DISPOSED OF IN A MANNER THAT MAY CAUSE OR TEND TO CAUSE POLLUTION IN ILLINOIS EITHER ALONE OR IN COMBINATION WITH MATTER FROM OTHER SOURCES OR SO AS TO VIOLATE REGULATIONS OR STANDARDS ADOPTED BY THE POLLUTION CONTROL BOARD UNDER THE ENVIRONMENTAL PROTECTION ACT.

(B) ENTER INFORMATION HERE FROM COMPARABLE BLOCK ON APC-200 - "APPLICATION FOR A PERMIT".

(C) ENTER INFORMATION IN ITEM 7 ABOVE SAME AS ITEM 7 APC-200 - "APPLICATION FOR A PERMIT".

(D) IF ADDITIONAL SPACE IS REQUIRED USE ADDITIONAL SHEETS, ATTACH AND IDENTIFY INFORMATION BY APPROPRIATE BLOCK NUMBER AS IT APPEARS ON THIS FORM.

THIS ADDENDUM WILL BE REVIEWED BY THE DIVISION OF LAND POLLUTION CONTROL AND THE OWNER WILL BE NOTIFIED WHETHER OR NOT A DETAILED APPLICATION FOR A PERMIT WILL NEED TO BE SUBMITTED. THIS FORM APC-103 - "DISPOSITION OF SOLID WASTE") IN ITSELF SHALL NOT BE CONSIDERED TO BE AN APPLICATION FOR A PERMIT. PROPER APPLICATION FOR PERMIT FORMS WILL BE MAILED TO YOU BY THE DIVISION OF LAND POLLUTION CONTROL, IF IT IS DEEMED THAT THE FACILITY REQUIRES A PERMIT.

added the words AND INHIBITOR ↓

8. BRIEFLY DESCRIBE THE PROCESS WHICH WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL:

THE TORIT DUST COLLECTOR COLLECTS THOSE CONSTITUENTS FROM PROCESSING AN PROPELLANT AND INHIBITOR. CONSTITUENTS ARE ACCUMULATED AS A RESULT OF THE ACTUAL MIXING AND PREPARATION OF MATERIALS IN A 55 GALLON DRUM ASSOCIATED WITH THE DUST COLLECTION SYSTEM.

9. DESCRIBE THE STATE OF THE WASTE MATERIAL (SLURRY, CAKE, FINE ASH, CINDERS, POWDER ON this page. THE APPLICANT'S PROPOSED DISPOSAL SITE:

POWDER

10. FOR THE WASTE STATE THE CHEMICAL COMPOSITION, EXPRESSED AS WEIGHT PERCENTAGES OF SOLID WASTE OR IN MILLIGRAMS PER LITER FOR LIQUIDS:

SEE PAGE 12 OF 27 "MATERIAL CONSTITUENTS"--

10a. STATE VOLUME & WEIGHT OF THE WASTE GENERATED BY THIS OPERATION (GALS./LBS.)
DAILY 1.8 /DAY WEEKLY 12.7/WK MONTHLY 55.7 /MO. YEARLY 637 /YR OTHER _____ EXPLAIN

7.2 50.9 221.5 2548

11a. WILL THE WASTE MATERIAL BE DEPOSITED IN A SANITARY LANDFILL PERMITTED BY THE ENVIRONMENTAL PROTECTION AGENCY?

☐ YES ☒ NO

11b. IF THE ANSWER TO 1a IS "YES", STATE THE NAME AND AGENCY SUPPLEMENTAL PERMIT NUMBER OF SUCH SITE.

NAME _____ SUPPLEMENTAL PERMIT NO. _____

12a. WILL THE WASTE MATERIAL BE STORED OR PROCESS AT THE APPLICANT PLANT OR PREMISES? ☒ YES ☐ NO

12b. IF THE ANSWER TO 12a IS "YES", EXPLAIN.

THE EXPLOSIVE WASTE MATERIAL IS "ACCUMULATED FOR LESS THAN 90 DAYS" AT THE GENERATING LOCATION. THE WASTE IS THEN TRANSFERRED DIRECTLY TO THE "THERMAL TREATMENT" FACILITY FOR "WASTE TREATMENT" OR TRANSFERRED TO THE INTERIM STATUS "STORAGE" FACILITY. ("TERMS" AS DEFINED BY WASTE REGULATIONS)

13a. WILL THE WASTE MATERIAL BE TRANSPORTED TO A REMOTE SITE FOR STORAGE, PROCESSING, OR DISPOSAL? ☒ YES ☐ NO

13b. IF THE ANSWER TO 13a IS "YES", EXPLAIN.

IF THE WASTE CANNOT BE TREATED IMMEDIATELY AT THE "THERMAL TREATMENT" FACILITY, IT MAY HAVE TO BE TRANSFERRED TO THE INTERIM STATUS "STORAGE" FACILITY UNTIL WHICH TIME IT CAN BE TRANSFERRED AND TREATED AT THE "THERMAL TREATMENT" FACILITY.

14a. WILL THE WASTE MATERIAL BE INCINERATED? ☒ YES ☐ NO

14b. IF THE ANSWER TO 14a IS "YES", EXPLAIN.

THE WASTE MATERIAL IS "INCINERATED" AS DEFINED BY THE AIR POLLUTION CONTROL REGULATIONS OR "TREATED BY THERMAL TREATMENT" AS DEFINED BY THE LAND POLLUTION CONTROL REGULATIONS.

15a. IF THE WASTE WILL BE DISPOSED OR UTILIZED IN A MANNER NOT OTHERWISE DESCRIBED, STATE THE METHOD OF UTILIZATION OR DISPOSAL TO BE USED AND THE OWNER AND LOCATION OF THE DISPOSAL OR PROCESSING FACILITY AND EXPLAIN.

N/A

Olin
ORDNANCE

MARION OPERATIONS

April 12, 1989

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

ATTENTION: Mr. Terry Sweitzer, P.E.
Manager, Permits Section

REFERENCE: Olin Corporation I.D. No. 199862AAB
Application No. 85010047
Propellant Mixing and Handling

Dear Mr. Sweitzer:

Enclosed herewith is an original and three (3) copies of an air permit application for a modification to the above referenced air permit. The production rates will be increased and the material handling station will be changed from a manual operation to the use of a mechanical bag dumper.

This application will supercede the application currently on file.

If additional information or clarification is required, please contact the undersigned.

Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AHJ/cy

Enclosure

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

APPLICATION FOR A PERMIT(A)

[X] CONSTRUCT [X] OPERATE

NAME OF EQUIPMENT TO BE CONSTRUCTED OR OPERATED: PROPELLANT MIXING AND HANDLING (B)

FOR AGENCY USE ONLY

I. D. NO. _____

PERMIT NO. _____

DATE _____

1a. NAME OF OWNER:		2a. NAME OF OPERATOR:	
OLIN CORPORATION		OLIN CORPORATION	
1b. STREET ADDRESS OF OWNER:		2b. STREET ADDRESS OF OPERATOR:	
ROUTE 148 SOUTH, P.O. BOX 278		ROUTE 148 SOUTH, P.O. BOX 278	
1c. CITY OF OWNER:		2c. CITY OF OPERATOR:	
MARION		MARION	
1d. STATE OF OWNER:	1e. ZIP CODE:	2d. STATE OF OPERATOR:	2e. ZIP CODE:
ILLINOIS	62959	ILLINOIS	62959

3a. NAME OF CORPORATE DIVISION OR PLANT:		3b. STREET ADDRESS OF EMISSION SOURCE:		
MARION OPERATIONS		CRAB ORCHARD WILDLIFE REFUGE		
3c. CITY OF EMISSION SOURCE:	3d. LOCATED WITHIN CITY LIMITS: [ ] YES [X] NO	3e. TOWNSHIP:	3f. COUNTY:	3g. ZIP CODE:
RURAL MARION		N/A	WILLIAMSON	62959

4. ALL CORRESPONDENCE TO: (TITLE AND/OR NAME OF INDIVIDUAL)	5. TELEPHONE NUMBER FOR AGENCY TO CALL:
ARTHUR HEINZ, JR., DIRECTOR	(618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) [X] OWNER: [ ] OPERATOR [ ] EMISSION SOURCE	7. YOUR DESIGNATION FOR THIS APPLICATION:(C) B-2-13-89

8. THE UNDERSIGNED HEREBY MAKES APPLICATION FOR A PERMIT AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. BY AFFIXING HIS SIGNATURE HERETO HE FURTHER CERTIFIES THAT HE IS AUTHORIZED TO EXECUTE THIS APPLICATION.

AUTHORIZED SIGNATURE(S):(D)

BY Arthur Heinz 4/12/89
SIGNATURE DATE

ARTHUR HEINZ, JR.
TYPED OR PRINTED NAME OF SIGNER

DIRECTOR
TITLE OF SIGNER

BY _____ _____
SIGNATURE DATE

TYPED OR PRINTED NAME OF SIGNER

TITLE OF SIGNER

(A) THIS FORM IS TO PROVIDE THE AGENCY WITH GENERAL INFORMATION ABOUT THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS FORM MAY ONLY BE USED TO REQUEST ONE TYPE OF PERMIT - CONSTRUCTION OR OPERATION - AND NOT BOTH.

(B) ENTER THE GENERIC NAME OF THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS NAME WILL APPEAR ON THE PERMIT WHICH MAY BE ISSUED PURSUANT TO THIS APPLICATION. THIS FORM MUST BE ACCOMPANIED BY OTHER APPLICABLE FORMS AND INFORMATION.

(C) PROVIDE A DESIGNATION IN ITEM 7 ABOVE WHICH YOU WOULD LIKE THE AGENCY TO USE FOR IDENTIFICATION OF YOUR EQUIPMENT. YOUR DESIGNATION WILL BE REFERENCED IN CORRESPONDENCE FROM THIS AGENCY RELATIVE TO THIS APPLICATION. YOUR DESIGNATION MUST NOT EXCEED TEN (10) CHARACTERS.

(D) THIS APPLICATION MUST BE SIGNED IN ACCORDANCE WITH PCB REGS., CHAPTER 2, PART 1, RULE 103(a)(4) OR 103(b)(5) WHICH STATES: "ALL APPLICATIONS AND SUPPLEMENTS THERETO SHALL BE SIGNED BY THE OWNER AND OPERATOR OF THE EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT, OR THEIR AUTHORIZED AGENT, AND SHALL BE ACCOMPANIED BY EVIDENCE OF AUTHORITY TO SIGN THE APPLICATION."

IF THE OWNER OR OPERATOR IS A CORPORATION, SUCH CORPORATION MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF THE CORPORATION'S BOARD OF DIRECTORS AUTHORIZING THE PERSONS SIGNING THIS APPLICATION TO CAUSE OR ALLOW THE CONSTRUCTION OR OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

9. DOES THIS PLOT PLAN CONTAIN A PLOT PLAN MAP
☐ YES ☐ NO SEE PAGE 4 OF 27

IF A PLOT PLAN MAP HAS PREVIOUSLY BEEN SUBMITTED, SPECIFY:
AGENCY I.D. NUMBER _____ APPLICATION NUMBER _____

IS THE APPROXIMATE SIZE OF APPLICANT'S PREMISES LESS THAN 1 ACRE?
☐ YES ☒ NO · SPECIFY 200 ACRES

10. DOES THIS APPLICATION CONTAIN A PROCESS FLOW DIAGRAM(S) THAT ACCURATELY AND CLEARLY REPRESENTS CURRENT PRACTICE.
☒ YES ☐ NO
SEE PAGE 11 OF 27

11a. WAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, OWNED OR CONTRACTED FOR, BY THE APPLICANT PRIOR TO APRIL 14, 1972:

☐ YES ☒ NO

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT A, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT WAS IN COMPLIANCE WITH THE RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION PRIOR TO APRIL 14, 1972.

11b. HAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, NOT PREVIOUSLY RECEIVED AN OPERATING PERMIT:

☒ YES ☐ NO
SEE PAGE 3 OF 27

IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT B, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT
(i) IS ORIGINAL OR ADDITIONAL EQUIPMENT
(ii) REPLACES EXISTING EQUIPMENT, OR
(iii) MODIFIES EXISTING EQUIPMENT
(c) PROVIDES THE ANTICIPATED OR ACTUAL DATES OF THE COMMENCEMENT OF CONSTRUCTION AND THE START-UP OF THE EQUIPMENT

12. IF THIS APPLICATION INCORPORATES BY REFERENCE A PREVIOUSLY GRANTED PERMIT(S), HAS FORM APC-210, "DATA AND INFORMATION--INCORPORATION BY REFERENCE" BEEN COMPLETED.
☐ YES ☒ NO

APPLICATION FOR OPERATING PERMIT ONLY

13. DOES THE STARTUP OF AN EMISSION SOURCE COVERED BY THIS APPLICATION PRODUCE AIR CONTAMINANT EMISSION IN EXCESS OF APPLICABLE STANDARDS:
☐ YES ☒ NO
IF "YES," HAS FORM APC-203, "OPERATION DURING STARTUP" BEEN COMPLETED FOR THIS SOURCE:
☐ YES ☐ NO

14. DOES THIS APPLICATION REQUEST PERMISSION TO OPERATE AN EMISSION SOURCE DURING MALFUNCTIONS OR BREAKDOWNS:
☐ YES ☒ NO
IF "YES," HAS FORM APC-204, "OPERATION DURING MALFUNCTION AND BREAKDOWN" BEEN COMPLETED FOR THIS SOURCE:
☐ YES ☐ NO

15. IS AN EMISSION SOURCE COVERED BY THIS APPLICATION SUBJECT TO A FUTURE COMPLIANCE DATE:
☐ YES ☒ NO
IF "YES," HAS FORM APC-202, "COMPLIANCE PROGRAM & PROJECT COMPLETION SCHEDULE," BEEN COMPLETED FOR THIS SOURCE:
☐ YES ☐ NO

16. DOES THE FACILITY COVERED BY THIS APPLICATION REQUIRE AN EPISODE ACTION PLAN (REFER TO GUIDELINES FOR EPISODE ACTION PLANS):
☐ YES ☒ NO

17. WAS THIS OPERATION THE SUBJECT OF A VARIANCE PETITION FILED WITH THE ILLINOIS POLLUTION CONTROL BOARD ON OR BEFORE JUNE 13, 1972:
☐ YES ☒ NO
IF "YES," CITE: PCB NUMBER(S) _____, DATE OF BOARD ORDER _____

WAS CONSTRUCTION OR MODIFICATION OF EQUIPMENT, SUFFICIENT TO ACHIEVE COMPLIANCE WITH THE "RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION" EFFECTIVE PRIOR TO APRIL 14, 1972, COMMENCED PRIOR TO APRIL 14, 1972:
☐ YES ☒ NO
IF "YES," EXPLAIN IN DETAIL, AND IDENTIFY EXPLANATION AS EXHIBIT D.

18. LIST AND IDENTIFY ALL FORMS, EXHIBITS, AND OTHER INFORMATION SUBMITTED AS PART OF THIS APPLICATION. INCLUDE THE PAGE NUMBERS ON EACH ITEM (ATTACH ADDITIONAL SHEETS IF NECESSARY):

	PAGE NO.
APC 200	1-2
EXHIBIT B	3
PLOT PLAN/MAP	4
APC 220 - HOODS, BAG DUMP STATION (S1, S3, S4)	5-7
APC 220 - STEAM VACUUM JETS (S5, S6)	8-10
PROCESS FLOW DIAGRAM	11
MATERIAL CONSTITUENTS	12
APC 260	13-18
MANUFACTURER'S INFORMATION	19-21
APC 103	22-23
DELEGATION OF AUTHORITY	24-27

TOTAL NUMBER OF PAGES 27

EXHIBIT B

a). DESCRIPTION OF EQUIPMENT:

Olin maintains a production facility southwest of Marion, Illinois, in a rural area. This facility, Olin designates as the "B" and "D" areas, generally is used for the manufacturing of military gas generator propulsion systems and blending of various explosive mixes for these systems and medium caliber ammunition.

The manufacturing of the gas generators requires the mixing and handling of new materials to process an ammonium nitrate based solid propellant. The air emissions from the mixing process are vented through two (2) hoods and drawn through air pollution control equipment and the filtered air is recirculated into the building. The air emissions from the raw material bag dump station will also be directly vented through the same air pollution control equipment as the mixer. The raw material station will be changed from a manual operation to the use of a mechanical bag dumper. The air pollution equipment consists of a Torit dust collector model 124 - 7½ H which utilizes high collection efficiency fabric filters. As air is drawn through the collector, most dust and collected materials settle into the hopper base. Smaller contaminants are trapped against the outside surface of the filters.

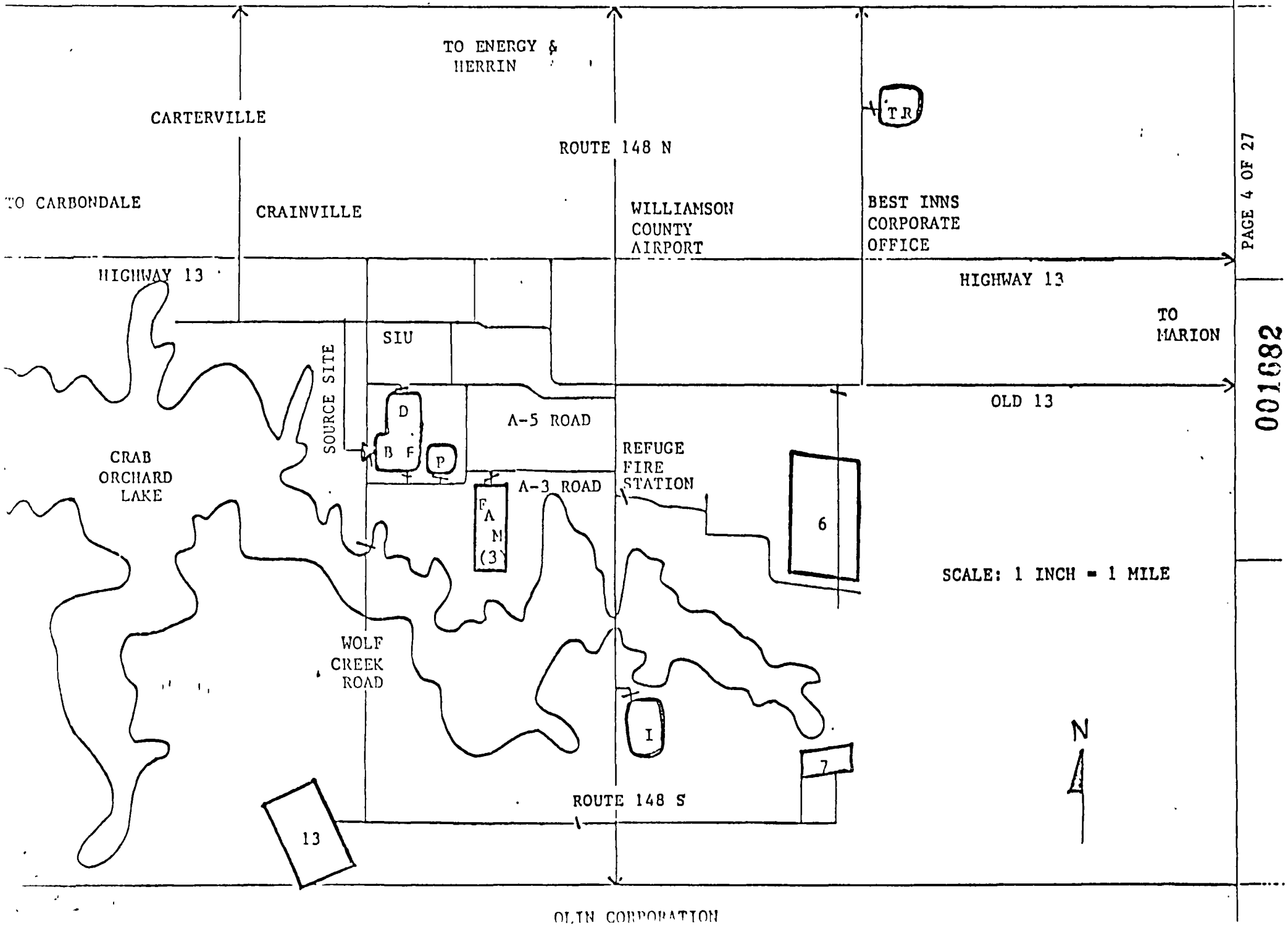
Associated with the mixer is a steam jet vacuum system which draws a vacuum on the mixing process. This system exhausts through a one (1) inch pipe extending approximately four (4) feet above the building roof.

b). EQUIPMENT STATUS:

All of the equipment is available at the plant.

c). ANTICIPATED DATES OF COMMENCEMENT AND START UP OF THE EQUIPMENT:

It is anticipated that construction would commence May 15, 1989 or earlier, provided a construction permit is granted. Start up would commence May 31, 1989 or earlier, provided an operating permit is granted.


TO ENERGY & HERRIN
CARTERVILLE
ROUTE 148 N
TR
TO CARBONDALE
CRAINVILLE
WILLIAMSON COUNTY AIRPORT
BEST INNS CORPORATE OFFICE
PAGE 4 OF 27
HIGHWAY 13
HIGHWAY 13
TO MARION
SIU
SOURCE SITE
D
B F
P
A-5 ROAD
OLD 13
CRAB ORCHARD LAKE
REFUGE FIRE STATION
A-3 ROAD
FAM (3)
6
SCALE: 1 INCH = 1 MILE
WOLF CREEK ROAD
I
7
N
ROUTE 148 S
13
OLIN CORPORATION

001682

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency may not be authorized to [illegible] Revised Statutes 1979 Chapter 111 1/2 Section 1009 Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center

*DATA AND INFORMATION PROCESS EMISSION SOURCE SUBSOURCES S1, S3, S4 - HOODS, BAG DUMP STATION	B-2-13-89 (4-12-89) APC 200: CONSTRUCT/OPERATE OLIN CORP., MARION, ILLINOIS

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER OLIN CORPORATION	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) MARION OPERATIONS
3. STREET ADDRESS OF EMISSION SOURCE CRAB ORCHARD WILDLIFE REFUGE	4. CITY OF EMISSION SOURCE. RURAL MARION

GENERAL INFORMATION

5. NAME OF PROCESS. PROPELLANT MIXING AND HANDLING	6. NAME OF EMISSION SOURCE EQUIPMENT. 200 GALLON MIXER/DUSTLESS BAG DUMPER	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER. BAKER-PERKINS/EPEC	8. MODEL NUMBER: 17WUEM/DBDM-FRP	9. SERIAL NUMBER. 52739/NA

10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE:
SEE PAGE 11 OF 27

11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION) 50 GALLON MIXER (APPLICATION DESIGNATION B-2-15-89)

12. AVERAGE OPERATING TIME OF EMISSION SOURCE SUBSOURCES 6 HRS/DAY 5 DAYS/WK 50 WKS/YR	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE SUBSOURCES 14 HRS/DAY 7 DAYS/WK 50 WKS/YR

14. PERCENT OF ANNUAL THROUGHPUT
DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. AN PROPELLANT	b. 400.47 LB/HR	c. 963.52 LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. AN PROPELLANT	b. 400 LB/HR	c. 963 LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. AN PROPELLANT	b. 0.47 LB/HR	c. 0.52 LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b.	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

*EMISSION INFORMATION N/A

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED)

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	53a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	54a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	55a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	56a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	57a. PPM (VOL)	b. LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. LB/HR	c.
CARBON MONOXIDE	59a. PPM (VOL)	b. LB/HR	c.
NITROGEN OXIDES	60a. PPM (VOL)	b. LB/HR	c.
ORGANIC MATERIAL	61a. PPM (VOL)	b. LB/HR	c.
SULFUR DIOXIDE	62a. PPM (VOL)	b. LB/HR	c.
**OTHER (SPECIFY)	63a. PPM (VOL)	b. LB/HR	c.

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
***"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION N/A

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

66. EXIT HEIGHT ABOVE GRADE:	67. EXIT DIAMETER:
68. GREATEST HEIGHT OF NEARBY BUILDINGS: FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: FT
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: °F	72. EXIT GAS TEMPERATURE: °F
71. GAS FLOW RATE THROUGH EACH EXIT: ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1/2 Section 1039 Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION PROCESS EMISSION SOURCE SUBSOURCES S5, S6 - STEAM JETS EXHAUST	B-2-13-89 (4-12-89) APC 200: CONSTRUCT/OPERATE OLIN CORP., MARION, ILLINOIS

*THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

1. NAME OF PLANT OWNER OLIN CORPORATION	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) MARION OPERATIONS
3. STREET ADDRESS OF EMISSION SOURCE. CRAB ORCHARD WILDLIFE REFUGE	4. CITY OF EMISSION SOURCE: RURAL MARION

GENERAL INFORMATION

5. NAME OF PROCESS: PROPELLANT MIXING AND HANDLING	6. NAME OF EMISSION SOURCE EQUIPMENT: 200 GALLON MIXER	
7. EMISSION SOURCE EQUIPMENT MANUFACTURER: BAKER PERKINS	8. MODEL NUMBER: 17WUEM	9. SERIAL NUMBER: 52739

10. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE
SEE PAGE 11 OF 27

11. IDENTITY(S) OF ANY SIMILAR SOURCE(S) AT THE PLANT OR PREMISES NOT COVERED BY THE FORM (IF THE SOURCE IS COVERED BY ANOTHER APPLICATION, IDENTIFY THE APPLICATION)
50 GALLON MIXER (APPLICATION DESIGNATION B-2-15-89)

12. AVERAGE OPERATING TIME OF EMISSION SOURCE SUBSOURCES	13. MAXIMUM OPERATING TIME OF EMISSION SOURCE SUBSOURCES
1.3 HRS/DAY 5 DAYS/WK 50 WKS/YR	1.7 HRS/DAY 7 DAYS/WK 50 WKS/YR

14. PERCENT OF ANNUAL THROUGHPUT
DEC-FEB 25 % MAR-MAY 25 % JUN-AUG 25 % SEPT-NOV 25 %

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE RAW MATERIAL, PRODUCT, WASTE MATERIAL, AND FUEL USAGE SECTIONS FOR THE PARTICULAR SOURCE EQUIPMENT. COMPOSITIONS OF MATERIALS MUST BE SUFFICIENTLY DETAILED TO ALLOW DETERMINATION OF THE NATURE AND QUANTITY OF POTENTIAL EMISSIONS. IN PARTICULAR, THE COMPOSITION OF PAINTS, INKS, ETC., AND ANY SOLVENTS MUST BE FULLY DETAILED.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. OPERATING TIME AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

RAW MATERIAL INFORMATION		
NAME OF RAW MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
20a. AN PROPELLANT	b. 405.05 LB/HR	c. 969.35 LB/HR
21a.	b. LB/HR	c. LB/HR
22a.	b. LB/HR	c. LB/HR
23a.	b. LB/HR	c. LB/HR
24a.	b. LB/HR	c. LB/HR

PRODUCT INFORMATION		
NAME OF PRODUCT	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
30a. AN PROPELLANT	b. 400 LB/HR	c. 963 LB/HR
31a.	b. LB/HR	c. LB/HR
32a.	b. LB/HR	c. LB/HR
33a.	b. LB/HR	c. LB/HR
34a.	b. LB/HR	c. LB/HR

WASTE MATERIAL INFORMATION		
NAME OF WASTE MATERIAL	AVERAGE RATE PER IDENTICAL SOURCE	MAXIMUM RATE PER IDENTICAL SOURCE
40a. WASTE THROUGH STEAM JETS	b. 5.05 LB/HR	c. 6.35 LB/HR
41a.	b. LB/HR	c. LB/HR
42a.	b. LB/HR	c. LB/HR
43a.	b. LB/HR	c. LB/HR
44a.	b. LB/HR	c. LB/HR

*FUEL USAGE INFORMATION N/A		
FUEL USED	TYPE	HEAT CONTENT
50a. NATURAL GAS ☐	b. ———	c. 1000 BTU/SCF
OTHER GAS ☐		BTU/SCF
OIL ☐		BTU/GAL
COAL ☐		BTU/LB
OTHER ☐		BTU/LB
d. AVERAGE FIRING RATE PER IDENTICAL SOURCE: BTU/HR	e. MAXIMUM FIRING RATE PER IDENTICAL SOURCE: BTU/HR	

*THIS SECTION IS TO BE COMPLETED FOR ANY FUEL USED DIRECTLY IN THE PROCESS EMISSION SOURCE, E.G. GAS IN A DRYER, OR COAL IN A MELT FURNACE.

*EMISSION INFORMATION

51. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED):
ONE (SEE PAGE 11 OF 27)

AVERAGE OPERATION (TOTAL FOR S5 & S6 SUBSOURCES)

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	52a. GR/SCF	b. 0.45 LB/HR	c. THEORETICAL CALCULATIONS
CARBON MONOXIDE	53a. PPM (VOL)	b. N/A LB/HR	c. N/A
NITROGEN OXIDES	54a. PPM (VOL)	b. N/A LB/HR	c. N/A
ORGANIC MATERIAL	55a. PPM (VOL)	b. 4.6 LB/HR	c. CALCULATIONS AND ENGINEERING ESTIMATE
SULFUR DIOXIDE	56a. PPM (VOL)	b. N/A LB/HR	c. N/A
**OTHER (SPECIFY)	57a. PPM (VOL)	b. N/A LB/HR	c. N/A

MAXIMUM OPERATION (TOTAL FOR S5 & S6 SUBSOURCES)

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	58a. GR/SCF	b. 0.45 LB/HR	c. THEORETICAL CALCULATIONS
CARBON MONOXIDE	59a. PPM (VOL)	b. N/A LB/HR	c. N/A
NITROGEN OXIDES	60a. PPM (VOL)	b. N/A LB/HR	c. N/A
ORGANIC MATERIAL	61a. PPM (VOL)	b. 5.9 LB/HR	c. CALCULATIONS AND ENGINEERING ESTIMATE
SULFUR DIOXIDE	62a. PPM (VOL)	b. N/A LB/HR	c. N/A
**OTHER (SPECIFY)	63a. PPM (VOL)	b. N/A LB/HR	c. N/A

*ITEMS 52 THROUGH 63 NEED NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

***EXHAUST POINT INFORMATION

64. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:
SEE PAGE 11 OF 27

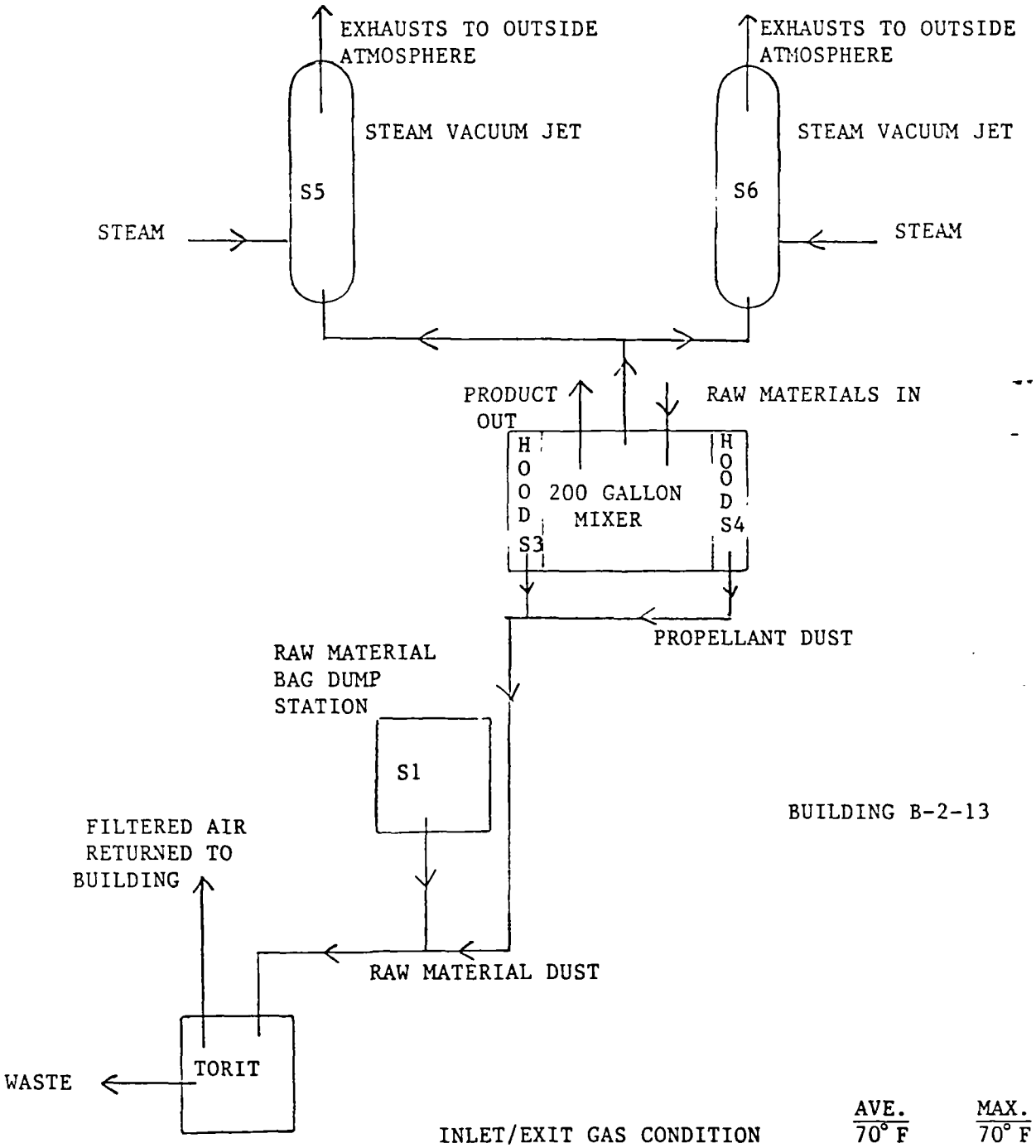
65. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):
VERTICAL; TWO 1 INCH PIPES EXTENDING 4-5 FEET ABOVE ROOF OF BLDG. B-2-13

66. EXIT HEIGHT ABOVE GRADE: 24 FT.	67. EXIT DIAMETER: 1 INCH
68. GREATEST HEIGHT OF NEARBY BUILDINGS: 17 FT	69. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: 400 F
AVERAGE OPERATION	MAXIMUM OPERATION
70. EXIT GAS TEMPERATURE: 212 °F	72. EXIT GAS TEMPERATURE: 212 °
71. GAS FLOW RATE THROUGH EACH EXIT: 27.8 ACFM	73. GAS FLOW RATE THROUGH EACH EACH EXIT: 27.8 ACFM

***THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.

PROCESS FLOW DIAGRAM: PROPELLANT MIXING AND HANDLING

NOTE: 5 (FIVE) EMISSION SUBSOURCES: S1, S3, S4, S5, S6
1 (ONE) AIR POLLUTION CONTROL DEVICE FOR S1, S3, S4:
TORIT DUST COLLECTOR



	AVE.	MAX.
INLET/EXIT GAS CONDITION	70° F	70° F
INLET/EXIT GAS FLOW RATE	2200 SCFM	2900 SCFM
FILTER UNIT EFFICIENCY:	99.9%	

MATERIAL CONSTITUENTS

Propellant

Constituent	Range %
Ammonium Nitrate	58.55 - 79.5
Polybutadiene Acrylic Acid	0 - 14.5
Guanidine Nitrate	0 - 5.25
Ammonium Oxalate	0 - 5.75
Sodium Barbiturate	0.9 - 2.2
Carbon Black	1.9 - 3.1
Acetyltriethyl Citrate	0 - 12.1
Dinitrophenoxyethanol	0 - 10.7
Toluene - 2,4-Diamine	0 - 1.0
N-Phenylmorpholine	0 - 1.0
Cellulose Acetate	0 - 11.6
Ammonium Ferri-Ferro-Cyanide (Milori Blue)	0 - 1.0
Melamine	0 - 6.0
Hexane (Mixing Aid)	0 - 45 gallons

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

[illegible] Revised Statutes, 1979, Chapter 111½, Section 1039. Disclosure of this information is required under that section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

*DATA AND INFORMATION AIR POLLUTION CONTROL EQUIPMENT	B-2-13-89 (4-12-89) APC 200: CONSTRUCT/OPERATE OLIN CORP., MARION, ILLINOIS

THIS INFORMATION FORM IS FOR AN INDIVIDUAL UNIT OF AIR POLLUTION CONTROL EQUIPMENT OR AN AIR POLLUTION CONTROL SYSTEM.

1. NAME OF OWNER OLIN CORPORATION	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER) MARION OPERATIONS
3. STREET ADDRESS OF CONTROL EQUIPMENT CRAB ORCHARD WILDLIFE REFUGE	4. CITY OF CONTROL EQUIPMENT: RURAL MARION
5. NAME OF CONTROL EQUIPMENT OR CONTROL SYSTEM: TORIT DUST COLLECTOR, CABINET MODEL 124-7½ H	

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION.
2. COMPLETE THE APPROPRIATE SECTION FOR THE UNIT OF CONTROL EQUIPMENT, OR THE APPROPRIATE SECTIONS FOR THE CONTROL SYSTEM. BE CERTAIN THAT THE ARRANGEMENT OF VARIOUS UNITS IN A CONTROL SYSTEM IS MADE CLEAR IN THE PROCESS FLOW DIAGRAM.
3. COMPLETE PAGE 6 OF THIS FORM, EMISSION INFORMATION AND EXHAUST POINT INFORMATION.
4. EFFICIENCY VALUES SHOULD BE SUPPORTED WITH A DETAILED EXPLANATION OF THE METHOD OF CALCULATION, THE MANNER OF ESTIMATION, OR THE SOURCE OF INFORMATION. REFERENCE TO THIS FORM ANY RELEVANT INFORMATION OR EXPLANATION INCLUDED IN THIS PERMIT APPLICATION.
5. EFFICIENCY VALUES AND CERTAIN OTHER ITEMS OF INFORMATION ARE TO BE GIVEN FOR AVERAGE AND MAXIMUM OPERATION OF THE SOURCE EQUIPMENT. FOR EXAMPLE, "MAXIMUM EFFICIENCY" IS THE EFFICIENCY OF THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT MAXIMUM OPERATION, AND "AVERAGE FLOW RATE" IS THE FLOW RATE INTO THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT AVERAGE OPERATION.
6. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS", APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
MAXIMUM OPERATION - THE GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

ADSORPTION UNIT N/A

1. FLOW DIAGRAM DESIGNATION(S) OF ADSORPTION UNIT:

2. MANUFACTURER.

3. MODEL NAME AND NUMBER:

4. ADSORBENT:
☐ ACTIVATED CHARCOAL. TYPE _____ ☐ OTHER· SPECIFY _____

5. ADSORBATE(S):

6. NUMBER OF BEDS PER UNIT·

7. WEIGHT OF ADSORBENT PER BED: LB

8. DIMENSIONS OF BED.
THICKNESS _____ IN, SURFACE AREA _____ SQUARE IN

9. INLET GAS TEMPERATURE °F

10. PRESSURE DROP ACROSS UNIT: INCH H_2O GAUGE

11. TYPE OF REGENERATION:
☐ REPLACEMENT ☐ STEAM ☐ OTHER. SPECIFY _____

12. METHOD OF REGENERATION:
☐ ALTERNATE USE OF _____ ENTIRE UNITS ☐ ALTERNATE USE OF _____ BEDS IN A SINGLE UNIT
☐ SOURCE SHUT DOWN ☐ OTHER: DESCRIBE

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
13. TIME ON LINE BEFORE REGENERATION: MIN/BED	15. TIME ON LINE BEFORE REGENERATION: MIN/BED
14. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4)· %	16. EFFICIENCY OF ADSORBER (SEE INSTRUCTION 4) %

AFTERBURNER N/A

1. FLOW DIAGRAM DESIGNATION(S) OF AFTERBURNER:

2. MANUFACTURER

3. MODEL NAME AND NUMBER:

4. COMBUSTION CHAMBER DIMENSIONS:
LENGTH _____ IN, CROSS-SECTIONAL AREA _____ SQUARE IN.

5. INLET GAS TEMPERATURE: °F

7. FUEL:
☐ GAS ☐ OIL: SULFUR _____ WT%

6. OPERATING TEMPERATURE OF COMBUSTION CHAMBER: °F

8. BURNERS PER AFTERBURNER: @ BTU/HR EACH

9. CATALYST USED:
☐ NO ☐ YES: DESCRIBE CATALYST _____

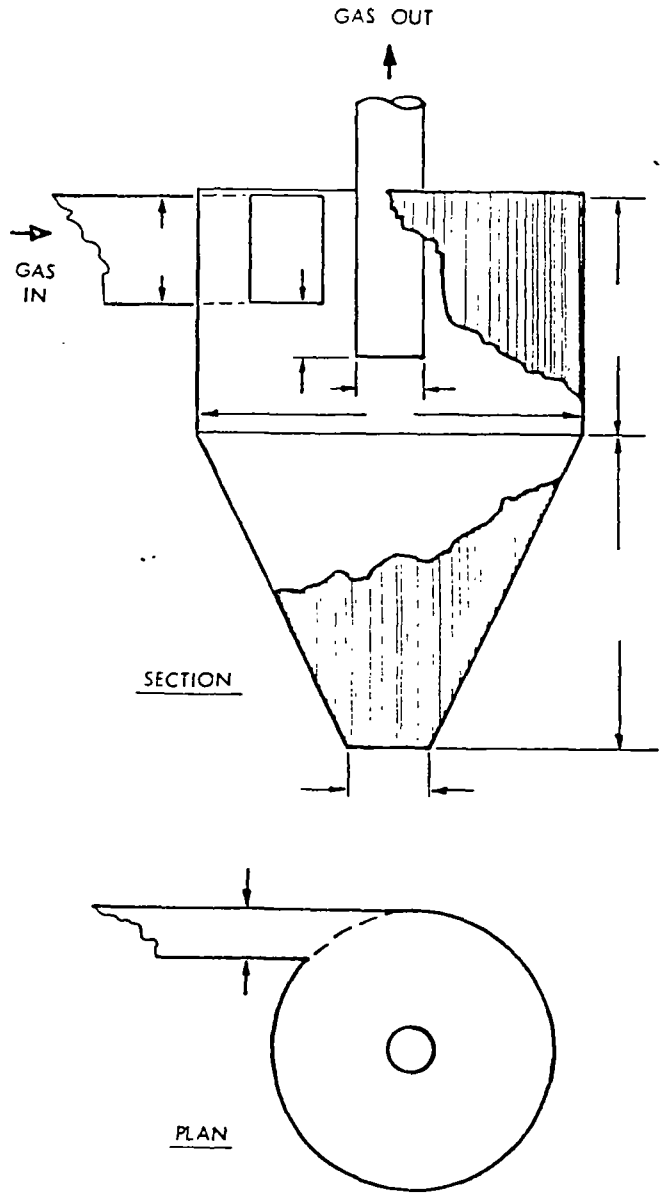
10. HEAT EXCHANGER USED:
☐ NO ☐ YES: DESCRIBE HEAT EXCHANGER _____

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
11. GAS FLOW RATE: SCFM	13. GAS FLOW RATE: SCFM
12. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4): %	14. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4): %

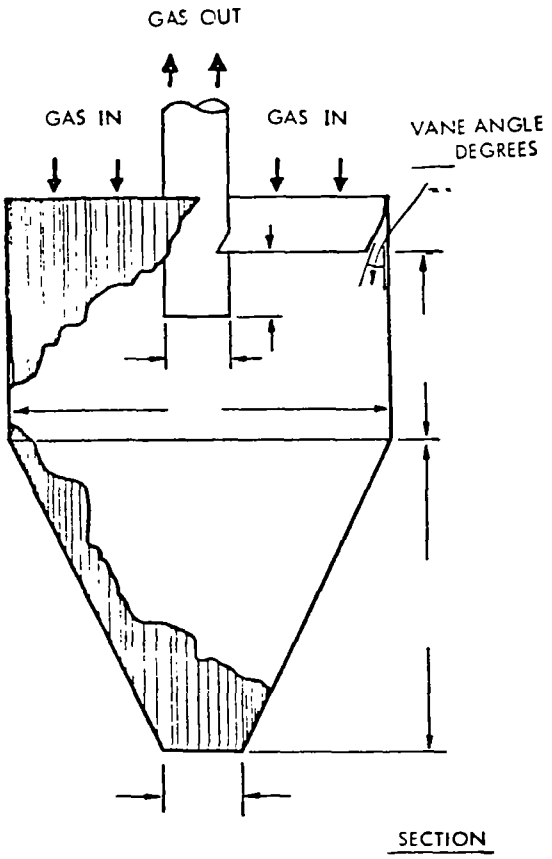
CYCLONE N/A	
1. FLOW DIAGRAM DESIGNATION(S) OF CYCLONE	
2. MANUFACTURER:	3. MODEL:
4. TYPE OF CYCLONE. ☐ SIMPLE ☐ MULTIPLE	5. NUMBER OF CYCLONES IN EACH MULTIPLE CYCLONE

6. DIMENSION THE APPROPRIATE SKETCH (IN INCHES) OR PROVIDE A DRAWING WITH EQUIVALENT INFORMATION:

TANGENTIAL INLET CYCLONE



AXIAL INLET CYCLONE
(INDIVIDUAL CYCLONE OF MULTIPLE CYCLONE)



NOT TO SCALE

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
7. GAS FLOW RATE: SCFM	9. GAS FLOW RATE: SCFM
8. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): %	10. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): %

CONDENSER N/A

1. FLOW DIAGRAM DESIGNATION(S) OF CONDENSER

2. MANUFACTURER	3. MODEL NAME AND NUMBER	4. HEAT EXCHANGE AREA FT^2

AVERAGE OPERATION OF SOURCE		MAXIMUM OPERATION OF SOURCE	
5. COOLANT FLOW RATE PER CONDENSER. WATER ____ GPM AIR ____ SCFM OTHER. TYPE ____, FLOW RATE ____		10. COOLANT FLOW RATE PER CONDENSER: WATER ____ GPM AIR ____ SCFM OTHER TYPE ____, FLOW RATE ____	
6. GAS FLOW RATE: SCFM		11. GAS FLOW RATE: SCFM	
7. COOLANT TEMPERATURE: INLET ___ °F OUTLET ___ °F	8. GAS TEMPERATURE: INLET ___ °F OUTLET ___ °F	12. COOLANT TEMPERATURE: INLET ___ °F OUTLET ___ °F	13. GAS TEMPERATURE: INLET ___ °F OUTLET ___ °F
9. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4): %		14. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4). %	

*ELECTRICAL PRECIPITATOR N/A

1. FLOW DIAGRAM DESIGNATION OF ELECTRICAL PRECIPITATOR:

2. MANUFACTURER:	3. MODEL NAME AND NUMBER.

4. COLLECTING ELECTRODE AREA PER CONTROL DEVICE: FT^2

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
5. GAS FLOW RATE: SCFM	7. GAS FLOW RATE: SCFM
6. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4): %	8. EFFICIENCY OF ELECTRICAL PRECIPITATOR (SEE INSTRUCTION 4) %

SUBMIT THE MANUFACTURER'S SPECIFICATIONS FOR THE ELECTRICAL PRECIPITATOR. REFERENCE THE INFORMATION TO THIS FORM.

*ELECTRICAL PRECIPITATORS VARY GREATLY IN THEIR DESIGN AND IN THEIR COMPLEXITY. THE ITEMS IN THIS SECTION PROVIDE A MINIMUM AMOUNT OF INFORMATION. THE APPLICANT MUST, HOWEVER, SUBMIT WITH THIS APPLICATION THE MANUFACTURER'S SPECIFICATIONS, INCLUDING ANY DRAWINGS, TECHNICAL DOCUMENTS, ETC. IF THE INFORMATION PROVIDED BY THE MANUFACTURER'S SPECIFICATIONS IS INSUFFICIENT FOR FULL AND ACCURATE ANALYSIS, THE AGENCY WILL REQUEST SPECIFIC ADDITIONAL INFORMATION.

FILTER UNIT

1. FLOW DIAGRAM DESIGNATION(S) OF FILTER UNIT:
SEE PAGE 11 OF 27

2. MANUFACTURER:	3. MODEL NAME AND NUMBER.
TORIT DIVISION, DONALDSON COMPANY, INC.	TORIT MODEL 124-7½ H
4. FILTERING MATERIAL: 40 FILTERS 30" X 24" EACH, FABRIC	5. FILTERING AREA: 400 SQUARE FEET

6. CLEANING METHOD:
☒ SHAKER ☐ REVERSE AIR ☐ PULSE AIR ☐ PULSE JET ☐ OTHER: SPECIFY ____

7. GAS COOLING METHOD: ☐ DUCTWORK: LENGTH ____ FT., DIAM ____ IN.
☐ BLEED-IN AIR ☐ WATER SPRAY ☐ OTHER: SPECIFY N/A

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. GAS FLOW RATE (FROM SOURCE): 2200 SCFM	12. GAS FLOW RATE (FROM SOURCE): 2900 SCFM
9. GAS COOLING FLOW RATE: N/A BLEED-IN AIR ____ SCFM, WATER SPRAY ____ GPM	13. GAS COOLING FLOW RATE: N/A BLEED-IN AIR ____ SCFM, WATER SPRAY ____ GPM
10. INLET GAS CONDITION: TEMPERATURE 70 °F DEWPOINT 47 °F	14. INLET GAS CONDITION: TEMPERATURE 70 °F DEWPOINT 47 °F
11. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): 99.9 %	15. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): 99.9 %

REFERENCE: MANUFACTURER'S INFORMATION PAGES 19-21

SCRUBBER N/A

1. FLOW DIAGRAM DESIGNATION(S) OF SCRUBBER:

2. MANUFACTURER	3. MODEL NAME AND NUMBER

4. TYPE OF SCRUBBER

☐ HIGH ENERGY: GAS STREAM PRESSURE DROP _____ INCH H_2O

☐ PACKED: PACKING TYPE _____, PACKING SIZE _____, PACKED HEIGHT _____ IN.

☐ SPRAY: NUMBER OF NOZZLES _____, NOZZLE PRESSURE _____ PSIG

☐ OTHER: SPECIFY _____ ATTACH DESCRIPTION AND SKETCH WITH DIMENSIONS

5. TYPE OF FLOW:

☐ COCURRENT ☐ COUNTERCURRENT ☐ CROSSFLOW

6. SCRUBBER GEOMETRY:

LENGTH IN DIRECTION OF GAS FLOW _____ IN., CROSS-SECTIONAL AREA _____ SQUARE IN.

7. CHEMICAL COMPOSITION OF SCRUBBANT:

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
8. SCRUBBANT FLOW RATE: GPM	12. SCRUBBANT FLOW RATE: GPM
9. GAS FLOW RATE: SCFM	13. GAS FLOW RATE: SCFM
10. INLET GAS TEMPERATURE: °F	14. INLET GAS TEMPERATURE: °F
11. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____ % PARTICULATE _____ % GASEOUS	15. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____ % PARTICULATE _____ % GASEOUS

OTHER TYPE OF CONTROL EQUIPMENT N/A

1. FLOW DIAGRAM DESIGNATION(S) OF "OTHER TYPE" OF CONTROL EQUIPMENT:

2. GENERIC NAME OF "OTHER" EQUIPMENT:	3. MANUFACTURER:	4. MODEL NAME AND NUMBER:

5. DESCRIPTION AND SKETCH, WITH DIMENSIONS AND FLOW RATES, OF "OTHER" EQUIPMENT:

AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
6. FLOW RATES: _____ GPM _____ SCFM	8. FLOW RATES: _____ GPM _____ SCFM
7. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4): %	9. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4): %

EMISSION INFORMATION

1. NUMBER OF IDENTICAL CONTROL UNITS OR CONTROL SYSTEMS (DESCRIBE AS REQUIRED)
N/A

AVERAGE OPERATION OF SOURCE (TOTAL FOR S1, S3, S4, SUBSOURCES)

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	2a. - GR/SCF	b. 0.00052 LB/HR	c. CALCULATED ESTIMATE BASED ON PAST EXPERIENCE AND 99.9% COLLECTOR
CARBON MONOXIDE	3a. PPM (VOL)	b. N/A LB/HR	c. EFFICIENCY N/A
NITROGEN OXIDES	4a. PPM (VOL)	b. N/A LB/HR	c. N/A
ORGANIC MATERIAL	5a. PPM (VOL)	b. N/A LB/HR	c. N/A
SULFUR DIOXIDE	6a. PPM (VOL)	b. N/A LB/HR	c. N/A
OTHER (SPECIFY)	7a. PPM (VOL)	b. N/A LB/HR	c. N/A

MAXIMUM OPERATION OF SOURCE (TOTAL FOR S1, S3, S4 SUBSOURCES)

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNIT OR CONTROL SYSTEM		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE
PARTICULATE MATTER	8a. GR/SCF	b. 0.00047 LB/HR	c CALCULATED ESTIMATE BASED ON PAST EXPERIENCE AND 99.9% COLLECTOR
CARBON MONOXIDE	9a. PPM (VOL)	b. N/A LB/HR	c EFFICIENCY N/A
NITROGEN OXIDES	10a. PPM (VOL)	b. N/A LB/HR	c. N/A
ORGANIC MATERIAL	11a. PPM (VOL)	b. N/A LB/HR	c. N/A
SULFUR DIOXIDE	12a. PPM (VOL)	b. N/A LB/HR	c. N/A
OTHER (SPECIFY)	13a. PPM (VOL)	b. N/A LB/HR	c. N/A

**"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

EXHAUST POINT INFORMATION

1. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:
SEE PAGE 11 OF 27

2. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.): FILTERED AIR IS EXHAUSTED AND RECIRCULATED BACK INTO THE OPERATIONAL BUILDING B-2-13

3. EXIT HEIGHT ABOVE GRADE: 13 FEET (RECYCLES BACK INTO THE BUILDING)	4. EXIT DIAMETER: 6" X 9"
5. GREASTEST HEIGHT OF NEARBY BUILDINGS: EST. 22 FT	6. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: 400 FT
AVERAGE OPERATION OF SOURCE	MAXIMUM OPERATION OF SOURCE
7. EXIT GAS TEMPERATURE: 70 °F	9. EXIT GAS TEMPERATURE: 70 °F
8. GAS FLOW RATE THROUGH EACH EXIT: 2200 ACFM	10. GAS FLOW RATE THROUGH EACH EXIT: 2900 ACFM

DUST COLLECTORS

CABINET MODEL 2
B-2-13-89 (4-12-89)
APC 200: CONSTRUCT/OPERAT
OLIN CORP., MARION, ILL.

HIGHLY EFFICIENT FILTRATION

TORIT's Model 124 cabinet dust collector effectively pulls dust particles from the air, including those smaller than one micron. This is possible because this collector utilizes fabric filters possessing an extremely high collection efficiency. Overall efficiencies are rated at 99.9% +, even with high concentrations of small particles present. Most dust and collected materials settle into the hopper base as air is pulled into the collector. Smaller contaminants are trapped against the outside surface of the fabric filters as air is drawn through and discharged out of the collector. Activating the manual filter shaker dislodges these particles. Where allowed, you can save costly heated or cooled air by being able to recirculate clean air (already at proper room temperature.)

CONSISTENT FAN PERFORMANCE

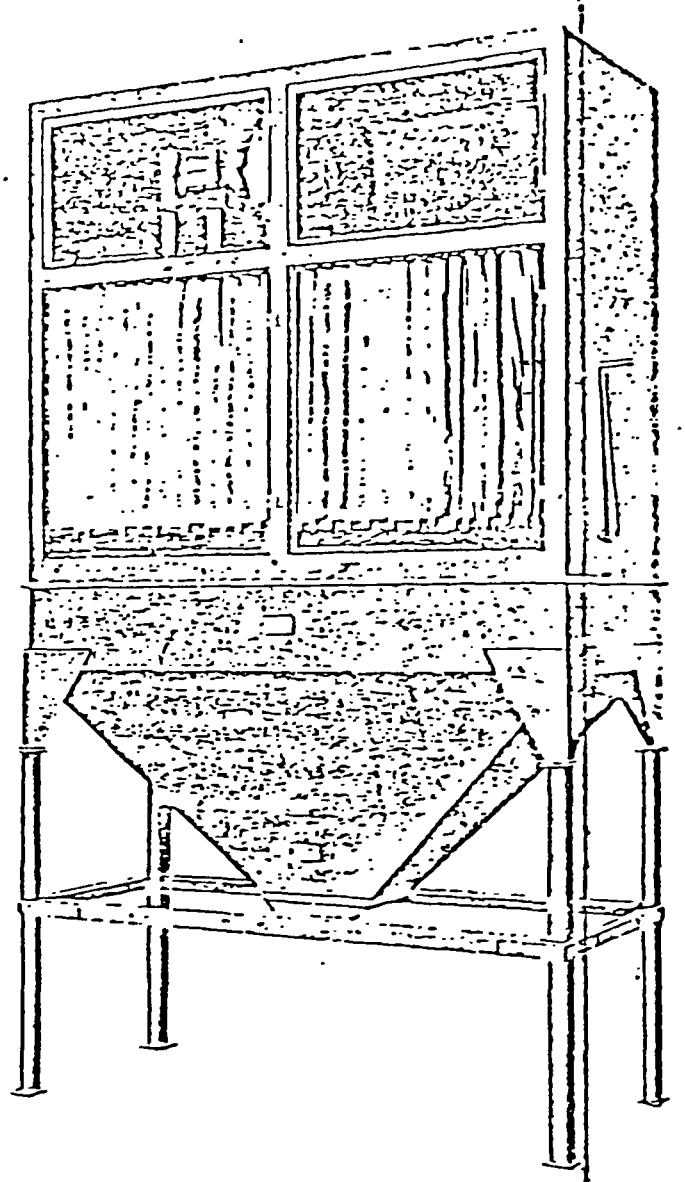
A constant and reliable performance is delivered by TORIT's fan. You get longer operation at lower cost because TORIT fans are on the clean air side. Grit, dust, chips, lint, shavings, tramp iron and other materials are deposited in the hopper or stopped by the filters before reaching it.

STRONG, DURABLE, COMPACT CONSTRUCTION

TORIT cabinets are solidly constructed of steel. All seams are spot-welded and sealed, and doors are felt-gasketed to ensure an air-tight structure. Model 124 is shipped in two major assemblies and is ready to be installed. When set up, it requires only 64½" x 29½" of floor space, while providing a fabric filtering area of 400 square feet.

EASY-EMPTYING DUST HOPPER

Hopper bottom allows for easy emptying of dust and bulky materials. Standard hopper bottom has a 16-cubic-foot storage capacity and terminates in a heavy-duty 8¼" square slide gate.



001697

DUST COLLECTORS

CABINET MODEL 124

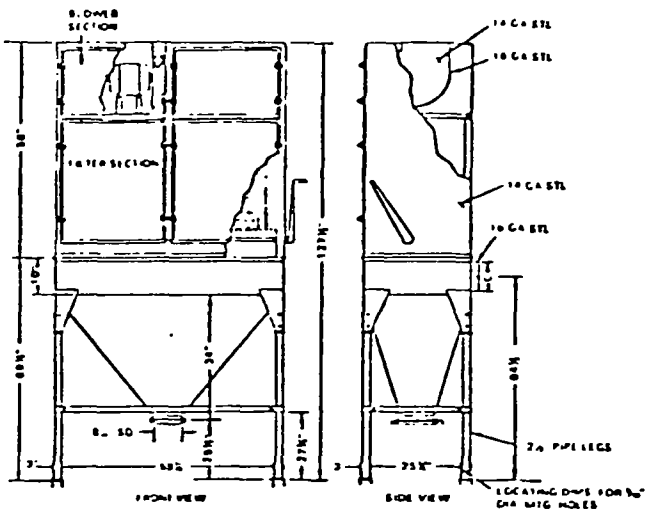
E-2-13-89 (4-12-89)
APC 200: CONSTRUCT/OPERAT
OLIN CORP., MARION, ILLINO

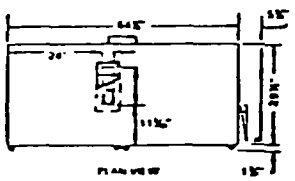
PERFORMANCE TESTED

Performance ratings and A-scale sound level readings are available for all TORIT dust collectors. All ratings are read and verified under standard test conditions in TORIT's laboratories.

MULTIPLE RATING TABLES

MODEL	C.F.M.	INLET VELOCITY (F.P.M.)	EXTERNAL STATIC PRESSURE (W.G.)	PRESSURE DROP CLEAN FILTERS (W.G.)
124 — 5	2200	6000	5.80"	1.40"
	2000	5720	6.80"	1.30"
	1800	5140	7.70"	1.20"
	1600	4570	8.50"	1.10"
	1460	4150	9.10"	.80"
124 — 7½	2900	5320	4.00"	1.50"
	2600	4770	5.70"	1.20"
	2450	4500	6.30"	1.10"
	2200	4030	7.10"	.90"
	1900	3490	7.80"	.75"





SPECIFICATIONS

MODEL	124-5	124-5 H	124-7½	124-7½ H
Motor	5 HP. 3600 RPM. 230-460v/60/3	5 HP. 3600 RPM. 230-460v/60/3	7½ HP. 3600 RPM. 230-460v/60/3	7½ HP. 3600 RPM. 230-460v/60/3
Exhaust Outlet	4½" x 10½"	4½" x 10½"	6" x 9"	6" x 9"
Dust Storage Area	4.4 cu. ft.	16 cu. ft.	4.4 cu. ft.	16 cu. ft.
Fabric Filter Area	400 sq. ft.	400 sq. ft.	400 sq. ft.	400 sq. ft.
Height	74"	127½"	74"	127½"
Shipping Weight	1070 lbs.	1365 lbs.	1100 lbs.	1405 lbs.
Optional Equipment	Motor-operated, automatically-timed filter shaker. Special HEPA filter.			
Standard Inlet Location	8" centered on back.	8" centered on back.	10" centered on back or side.	10" centered on back or side.

Specifications subject to change without notice.

TORIT district sales representatives are conveniently located throughout the United States and Canada. One will gladly work with you on your in-plant air pollution problems, and offer complete recommendations at no obligation to you. Check your Yellow Pages, under "Dust Collecting Systems", for local listing, or write.

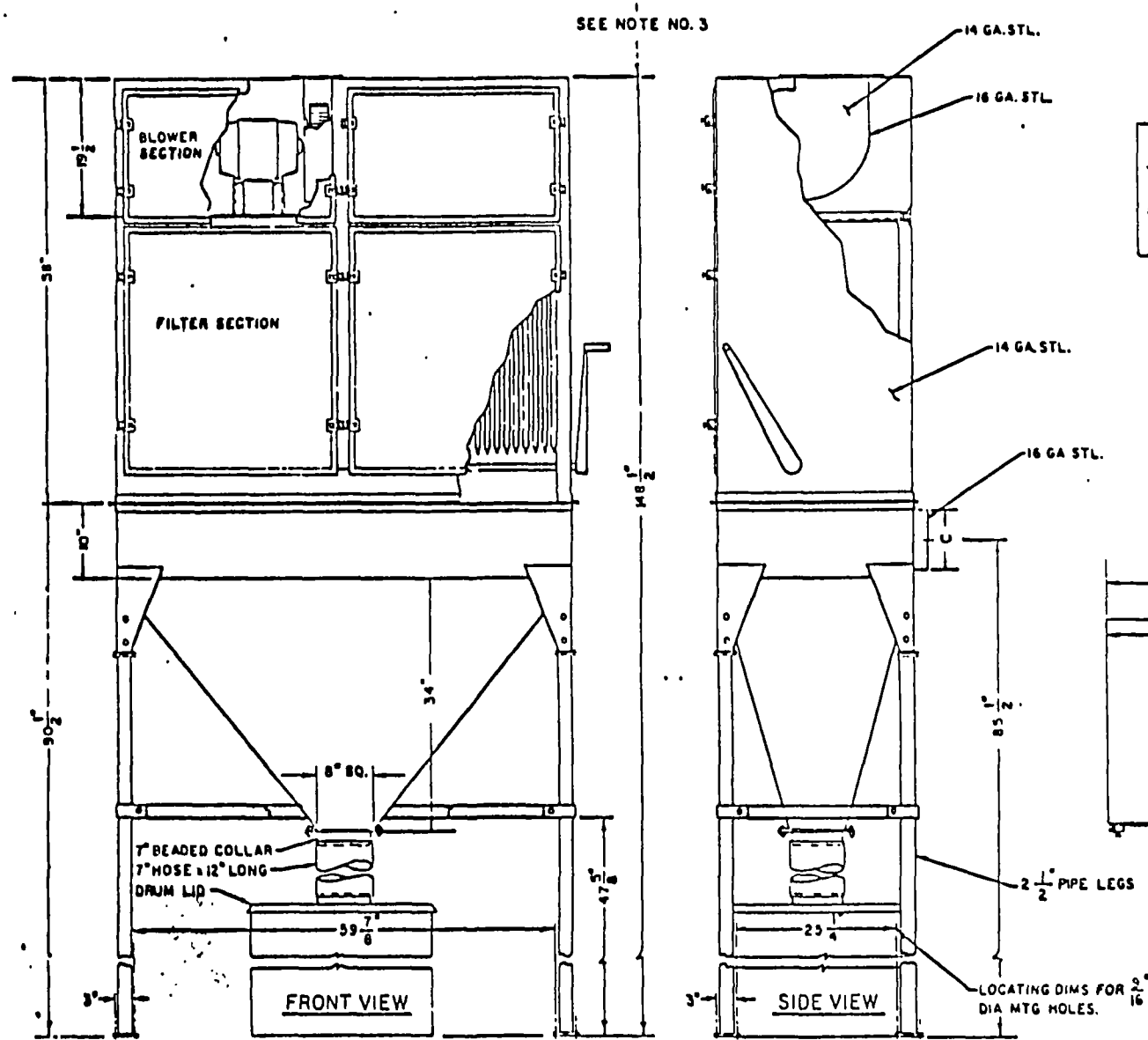
torit

LEADERS IN CONTROL OF IN-PLANT AIR POLLUTION
TORIT DIVISION/DONALDSON COMPANY, INC./BOX 43217/ST. PAUL, MINNESOTA 55164

001698

FORM 124 (8-75) Copyright TORIT

Printed in U.S.A.



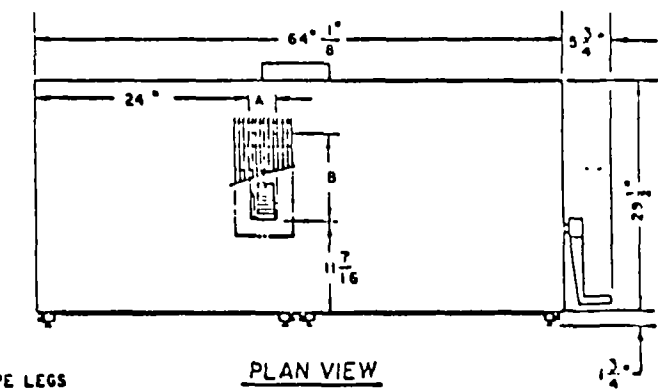
CERTIFICATION

THIS DRAWING IS CERTIFIED TO BE CORRECT.

BY: _____ DATE: _____

ENGINEERING DEPT.

UNIT	A	B	C
124-5H	4 1/2	10 1/2	8"
124-7 1/2 H	6	9	10"



124-5H···MULTIPLE RATING TABLES···124-7 1/2 H

C.F.M.	F.P.M.	EXT. S.P.	C.F.M.	F.P.M.	EXT. S.P.
2200	6000	5.80	2900	5320	4.0
2000	5720	6.80	2600	4770	5.7
1800	5140	7.70	2450	4500	6.7
1600	4570	8.50	2200	4030	7.1
1460	4150	9.10	1900	3490	7.8

SPECIFICATIONS

1. MOTOR SHALL BE 5HP ON NO. 124-5H & 7 1/2 HP ON NO. 124-7 1/2 H, 3600 RPM, 230-460/60/3
2. DRUM CAPACITY SHALL BE 7.5 CU. FT
3. FILTER AREA SHALL BE 400 SQ. FT. (40 FILTERS 30" X 24" EACH)
4. INLET LOCATION: CENTERED ON BACK OR SIDE
5. HOPPER CAPACITY SHALL BE 16.0 CU. FT.
6. NET WT. 1200 1230 SHIPPING WT. 1525 1560

NOTES

1. THIS DRAWING IS FOR A 124-5H & 124-7 1/2 H DUST COLLECTOR. ANY DEPARTURE FROM THIS DESIGN SHALL REQUIRE SPECIAL FABRICATION AND AN INCREASE IN COST
2. THIS DRAWING IS NOT CERTIFIED FOR CONSTRUCTION PURPOSES UNLESS PROPERLY SIGNED BY TORIT.
3. ALLOW A MIN. CLEARANCE OF 12" ABOVE FAN OUTLET.
4. DRUM NOT FURNISHED BY TORIT.

TORIT DIVISION, DONALDSON COMPANY, INC.
P.O. BOX 43217 - ST. PAUL, MINNESOTA 55164

SPECIFICATION CONTROL DRAWING
NO 124-5 & 124-7 1/2 -55 DUST COLLECTOR

DRAWN: T. [illegible]
APP'D: [illegible]
DRWG. NO: 124-004
REV E 9-77

001699

APC 200: CONSTRUCT/OPERATE
OLIN CORP., MARION, ILLINOIS

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes 1979 Chapter 111 1/2 Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

DISPOSITION OF WASTE MATERIALS(A)

NAME OF EQUIPMENT OR PROCESS TO BE CONSTRUCTED OR OPERATED (B): PROPELLANT MIXING AND HANDLING

FOR AGENCY USE ONLY

REFERENCE I.D. NO. _____

REFERENCE PERMIT NO. _____

DATE _____

1a. NAME OF OWNER:		2a. NAME OF OPERATOR	
OLIN CORPORATION		OLIN CORPORATION	
1b. STREET ADDRESS OF OWNER:		2b. STREET ADDRESS OF OPERATOR:	
P.O. BOX 278, ROUTE 148 SOUTH		P.O. BOX 278, ROUTE 148 SOUTH	
1c. CITY OF OWNER:		2c. CITY OF OPERATOR:	
MARION		MARION	
1d. STATE OF OWNER: ILLINOIS	1e. ZIP CODE: 62959	2d. STATE OF OPERATOR: ILLINOIS	2e. ZIP CODE: 62959

3a. NAME OF CORPORATE DIVISION OR PLANT:		3b. STREET ADDRESS OF EMISSION SOURCE:		
MARION OPERATIONS		CRAB ORCHARD WILDLIFE REFUGE		
3c. CITY OF EMISSION SOURCE:	3d. LOCATED WITHIN CITY LIMITS ☐ YES ☒ NO	3e. TOWNSHIP:	3f. COUNTY:	3g. ZIP CODE:
RURAL MARION		N/A	WILLIAMSON	62959

4. ALL CORRESPONDENCE TO: (NAME OF INDIVIDUAL)	5. TELEPHONE NUMBER FOR AGENCY TO CALL:
ARTHUR HEINZ, JR.	(618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) ☒ OWNER ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR ID NUMBER FOR THIS APPLICATION:(C) B-2-13-89

(A) THIS FORM IS TO BE COMPLETED FOR ANY STATIONARY EMISSION SOURCE THAT WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL THAT MAY BE DISPOSED OF IN A MANNER THAT MAY CAUSE OR TEND TO CAUSE POLLUTION IN ILLINOIS EITHER ALONE OR IN COMBINATION WITH MATTER FROM OTHER SOURCES OR SO AS TO VIOLATE REGULATIONS OR STANDARDS ADOPTED BY THE POLLUTION CONTROL BOARD UNDER THE ENVIRONMENTAL PROTECTION ACT.

(B) ENTER INFORMATION HERE FROM COMPARABLE BLOCK ON APC-200 - "APPLICATION FOR A PERMIT".

(C) ENTER INFORMATION IN ITEM 7 ABOVE SAME AS ITEM 7 APC-200 - "APPLICATION FOR A PERMIT".

(D) IF ADDITIONAL SPACE IS REQUIRED USE ADDITIONAL SHEETS, ATTACH AND IDENTIFY INFORMATION BY APPROPRIATE BLOCK NUMBER AS IT APPEARS ON THIS FORM.

THIS ADDENDUM WILL BE REVIEWED BY THE DIVISION OF LAND POLLUTION CONTROL AND THE OWNER WILL BE NOTIFIED WHETHER OR NOT A DETAILED APPLICATION FOR A PERMIT WILL NEED TO BE SUBMITTED. THIS FORM APC-103 - "DISPOSITION OF SOLID WASTE") IN ITSELF SHALL NOT BE CONSIDERED TO BE AN APPLICATION FOR A PERMIT. PROPER APPLICATION FOR PERMIT FORMS WILL BE MAILED TO YOU BY THE DIVISION OF LAND POLLUTION CONTROL, IF IT IS DEEMED THAT THE FACILITY REQUIRES A PERMIT.

8. BRIEFLY DESCRIBE THE PROCESS WHICH WILL RESULT IN THE PRODUCTION OF WASTE MATERIAL.

THE TORIT DUST COLLECTOR COLLECTS THOSE CONSTITUENTS FROM PROCESSING AN PROPELLANT. CONSTITUENTS ARE ACCUMULATED AS A RESULT OF THE ACTUAL MIXING AND PREPARATION OF MATERIALS IN A 55 GALLON DRUM ASSOCIATED WITH THE DUST COLLECTION SYSTEM.

9. DESCRIBE THE STATE OF THE WASTE MATERIAL (SLURRY, CAKE, FINE ASH, CINDERS, POWDER, SOLIDS, LIQUID, ETC.) AT THE APPLICANT'S PROPOSED DISPOSAL SITE

POWDER

10. FOR THE WASTE STATE THE CHEMICAL COMPOSITION, EXPRESSED AS WEIGHT PERCENTAGES OF SOLID WASTE OR IN MILLIGRAMS PER LITER FOR LIQUIDS:

SEE PAGE 12 OF 27 "MATERIAL CONSTITUENTS"

10a. STATE VOLUME & WEIGHT OF THE WASTE GENERATED BY THIS OPERATION (GALS./LBS.)
DAILY 1.8 /DAY WEEKLY 12.7 /WK MONTHLY 55.7 /MO. YEARLY 637 /YR OTHER _____ EXPLAIN
7.2 50.9 221.5 2548

11a. WILL THE WASTE MATERIAL BE DEPOSITED IN A SANITARY LANDFILL PERMITTED BY THE ENVIRONMENTAL PROTECTION AGENCY?

☐ YES ☒ NO

11b. IF THE ANSWER TO 1a IS "YES", STATE THE NAME AND AGENCY SUPPLEMENTAL PERMIT NUMBER OF SUCH SITE.

NAME _____ SUPPLEMENTAL PERMIT NO. _____

12a. WILL THE WASTE MATERIAL BE STORED OR PROCESS AT THE APPLICANT PLANT OR PREMISES? ☒ YES ☐ NO

12b. IF THE ANSWER TO 12a IS "YES", EXPLAIN.
THE EXPLOSIVE WASTE MATERIAL IS "ACCUMULATED FOR LESS THAN 90 DAYS" AT THE GENERATING LOCATION. THE WASTE IS THEN TRANSFERRED DIRECTLY TO THE "THERMAL TREATMENT" FACILITY FOR "WASTE TREATMENT" OR TRANSFERRED TO THE INTERIM STATUS "STORAGE" FACILITY... ("TERMS" AS DEFINED BY WASTE REGULATIONS)

13a. WILL THE WASTE MATERIAL BE TRANSPORTED TO A REMOTE SITE FOR STORAGE, PROCESSING, OR DISPOSAL? ☒ YES ☐ NO

13b. IF THE ANSWER TO 13a IS "YES", EXPLAIN.
IF THE WASTE CANNOT BE TREATED IMMEDIATELY AT THE "THERMAL TREATMENT" FACILITY, IT MAY HAVE TO BE TRANSFERRED TO THE INTERIM STATUS "STORAGE" FACILITY UNTIL WHICH TIME IT CA BE TRANSFERRED AND TREATED AT THE "THERMAL TREATMENT" FACILITY.

14a. WILL THE WASTE MATERIAL BE INCINERATED? ☒ YES ☐ NO

14b. IF THE ANSWER TO 14a IS "YES", EXPLAIN.
THE WASTE MATERIAL IS "INCINERATED" AS DEFINED BY THE AIR POLLUTION CONTROL REGULATIONS OR "TREATED BY THERMAL TREATMENT" AS DEFINED BY THE LAND POLLUTION CONTROL REGULATIONS.

15a. IF THE WASTE WILL BE DISPOSED OR UTILIZED IN A MANNER NOT OTHERWISE DESCRIBED, STATE THE METHOD OF UTILIZATION OR DISPOSAL TO BE USED AND THE OWNER AND LOCATION OF THE DISPOSAL OR PROCESSING FACILITY AND EXPLAIN.

N/A

OLIN CORPORATION

I, J. M. Jackson, Jr., Assistant Secretary of OLIN CORPORATION, a Virginia corporation, hereby certify:

that J. W. Johnstone, Jr. was on December 10, 1987, and is on the date hereof, President and Chief Executive Officer of the Corporation;

that attached hereto is a true and correct copy of a Delegation of Authority, dated December 10, 1987, by J. W. Johnstone, Jr., President and Chief Executive Officer of the Corporation, to D. W. Griffin, Executive Vice President, and President, Olin Defense Systems Group, of the Corporation, that the same has not been rescinded and is in full force and effect, and that D. W. Griffin was on February 14, 1988, Executive Vice President, and President, Olin Defense Systems Group, of the Corporation;

that attached hereto is a true and correct copy of a Delegation of Authority, dated February 14, 1988, by D. W. Griffin, Executive Vice President, and President, Olin Defense Systems Group, of the Corporation, to A. A. Catani, President, Ordnance Division, Olin Defense Systems Group, of the Corporation, that the same has not been rescinded and is in full force and effect, and that A. A. Catani was on February 18, 1988, and is on the date hereof, President, Ordnance Division, Olin Defense Systems Group, of the Corporation;

that attached hereto is a true and correct copy of a Specific Authorization, dated February 18, 1988, by A. A. Catani, President, Ordnance Division, Olin Defense Systems Group, of the Corporation, to A. Heinz, Director, Marion Operations, Ordnance Division, Defense Systems Group, of the Corporation, that the same has not been rescinded and is in full force and effect, and that A. Heinz, was on February 18, 1988, and is on the date hereof, Director, Marion Operations, Ordnance Division, Defense Systems Group, of the Corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and the seal of OLIN CORPORATION, this 18th day of FEBRUARY, 1988.

J. M. Jackson, Jr.
Assistant Secretary

001702

MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

ATTACHMENT 1

PART A APPLICATION AMENDMENT

REQUEST FOR DELETIONS, ADDITIONS, CHANGES AND DEMONSTRATION

NOTE: Since no written responses from the USEPA could be located in Olin's files approving any of the past various changes on the Part A application, the 10 November 1980 Part A submittal by Olin will be used as a base in requesting deletions, additions, and/or changes.

MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

FORM 1 GENERAL

001189

MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

FORM 1 GENERAL ATTACHMENTS: 1.) 10 Nov. 80 Page 1
2.) March 87 Page 1

REQUEST/DEMONSTRATION: Olin requests the following changes be made since these corrections accurately describe the facility.

ITEM	10 NOV. 80	MARCH 87
I. EPA I.D. NUMBER	ILD006317473	IL8143609487
III. NAME OF FACILITY	OLIN CORP. TECHNICAL SYSTEM OPERATION	OLIN CORPORATION ORDNANCE PRODUCTS
IV. FACILITY CONTACT		
A. NAME & TITLE	ALTEKRUSE, RICHARD MGR. PROCESS	HEINZ, JR., ARTHU DIRECTOR
B. PHONE	618 985-3721	618 985-8211
V. FACILITY MAILING ADDRESS		
A. STREET OR P.O. BOX	P.O. DRAWER G	P.O. BOX 278

GENERAL

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

F I L D 0 0 6 3 1 7 4 7 3

LABEL ITEMS

I. EPA I.D. NUMBER

II. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided it in the designated space. Review the l ation carefully; if any of it is incorrect through it and enter the correct data appropriate fill-in area below. Also, if the preprinted data is absent *(the area left of the label space lists the infor that should appear)*, please provide it proper fill-in area(s) below. If the l complete and correct, you need not co Items I, III, V, and VI *(except VI-B must be completed regardless)*. Comp items if no label has been provided. R the instructions for detailed item tions and for the legal authorizations which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third col if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your act is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK YES	NO
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X

III. NAME OF FACILITY

1 SKIP O L I N C O R P T E C H N I C A L S Y S T E M S O P E R A T I O N

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 A L T E K R U S E R I C H A R D M G R P R O C E S S	6 1 8 9 8 5 3 7 2 1

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P O D R A W E R G

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 M A R I O N	I L	6 2 9 5 9

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 O R D I L L I N D U S T R I A L A R E A

B. COUNTY NAME

W I L L I A M S O N

001191

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 M A R I O N	I L	6 2 9 5 9	

CONTINUE ON RE

GENERAL

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

F I L 8 1 4 3 6 0 9 4 8 7

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, it in the designated space. Review the in ation carefully; if any of it is incorrect, through it and enter the correct data i appropriate fill-in area below. Also, if a the preprinted data is absent *(the area t left of the label space lists the inform that should appear)*, please provide it i proper fill-in area(s) below. If the la complete and correct, you need not cor Items I, III, V, and VI *(except VI-B must be completed regardless)*. Comple items if no label has been provided. Re the instructions for detailed item de tions and for the legal authorizations which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third colu if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your acti is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK YES	NO	AT
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP OLIN CORPORATION ORDNANCE PRODUCTS

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 HEINZ JR ARTHUR DIRECTOR	618 985 8211

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 PO BOX 278

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 MARION	IL	62959

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 ORDILL INDUSTRIAL AREA

B. COUNTY NAME

WILLIAMSON

001192

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 MARION	IL	62959	

MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

FORM 1 GENERAL ATTACHMENTS: 1.) 10 NOV. 80 PAGE 2
2.) MARCH 87 PAGE 2

REQUEST/DEMONSTRATION: Olin requests the following changes be made since these corrections accurately describe the facility.

	ITEM	10 NOV. 80	MARCH 87
VII.	SIC CODES		
	B. SECOND	2819 SOLID PROPELLANTS	3489 ORDNANCE AND ACCESSORIES, NOT ELSEWHERE CLASSIFIED
VIII.	OPERATOR INFORMATION		
	D. PHONE	618 985 3721	203 356 2000
	E. STREET OR P.O. BOX	P.O. DRAWER G	120 LONGRIDGE ROAD
	F. CITY OR TOWN	MARION	STAMFORD
	G. STATE	IL.	CT.
	H. ZIP CODE	62959	06904
VII.	NATURE OF BUSINESS		
		Manufacture of intermediate caliber ammunition and manufacture of solid propellant gas generators and ordnance devices.	Manufacture of ordnance products such as small and medium caliber ammunition and solid propellant gas generator propulsion systems depen on U.S. Government and foreign subsidiaries contracts.
XIII.	CERTIFICATION		
	A. NAME & OFFICIAL TITLE	J.E. REDDEN VICE PRESIDENT, TSO	ARTHUR HEINZ, JR. DIRECTOR
	B. SIGNATURE	(ORIGINAL SIGNED)	(APPROPRIATELY SIGNED)
	C. DATE SIGNED	10-27-80	(APPROPRIATELY DATED)

001193

A. FIRST		B. SECOND	
4 8 2 (specify) SMALL ARMS AMMUNITION		2 8 1 9 (specify) SOLID PROPELLANTS	
C. THIRD		**D. FOURTH**	
(specify)		(specify)	

OPERATOR INFORMATION

A. NAME	B. Is the name listed in Item VIII-A also the owner?
OLIN CORPORATION	☐ YES ☒ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)		D. PHONE (area code & no.)
F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC (other than federal or state), O = OTHER (specify)	(specify)	A 6 1 8 9 8 5 3 7 2
P		

E. STREET OR P.O. BOX			
P O DRAWER G			
F. CITY OR TOWN	**G. STATE**	**H. ZIP CODE**	**IX. INDIAN LAND**
8 MARION	IL	62959	Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
N	9 P
B. UIC (Underground Injection of Fluids)	**E. OTHER (specify)**
9 U	9 (specify) SEE ATTACHED SHEET
C. RCRA (Hazardous Wastes)	**E. OTHER (specify)**
9 R	9 (specify)

XI.

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map mus the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardou treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Manufacture of intermediate caliber ammunition and manufacture of solid propellant ga generators and ordnance devices.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this ap attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information application, I believe that the information is true, accurate and complete. I am aware that there are significant penalti false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. D
REDDEN TSO	ORIGINAL SIGNED 001194	1

A. FIRST	B. SECOND
3482 SMALL ARMS AMMUNITION	7 3489 ORDNANCE AND ACCESSORIES, NOT ELSEWHERE CLASSIFIED
C. THIRD	D. FOURTH
(specify)	7 (specify)

OPERATOR INFORMATION

A. NAME: OLIN CORPORATION

B. Is the name listed in Item VIII-A also owner? ☐ YES ☒ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL, M = PUBLIC (other than federal or state), S = STATE, O = OTHER (specify), P = PRIVATE
P (specify)

D. PHONE (area code & no.): A 203 356 2000

E. STREET OR P.O. BOX: 20 LONGRIDGE ROAD

F. CITY OR TOWN: STAMFORD

G. STATE: CT

H. ZIP CODE: 06904

IX. INDIAN LAND
Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	9 N	D. PSD (Air Emissions from Proposed Sources)	9 P
B. UIC (Underground Injection of Fluids)	9 U	E. OTHER (specify)	9 (specify) SEE ATTACHED SHEET
C. RCRA (Hazardous Wastes)	9 R	E. OTHER (specify)	9 (specify)

XI. Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Manufacture of ordnance products such as small and medium caliber ammunition and solid propellant gas generator propulsion systems dependent on U.S. Government and foreign subsidiaries contracts.

II. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
THUR HEINZ, JR. DIRECTOR - ORDNANCE PRODUCTS	X Arthur Heinz Jr.	X 3/24/87

COMMENTS FOR OFFICIAL USE ONLY

MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

FORM 1 GENERAL ATTACHMENTS: 1.) 10 NOV. 80 PAGE 3
2.) MARCH 87 PAGE 3

REQUEST/DEMONSTRATION: Olin requests that page 3 of the 10 Nov. 80 submittal pertaining to "X. Existing Environmental Permits" be deleted and replaced with the March 87 page 3 submittal since it describes all current permits at Olin Corporation in Marion, Illinois.

X. EXISTING ENVIRONMENTAL PERMITS

PERMIT NO.	PURPOSE
73030352	Illinois EPA Boiler Operating Permit
73030720	Illinois EPA Boiler Operating Permit
73030353	Illinois EPA Boiler Operating Permit
73030350	Illinois EPA Boiler Operating Permit
73032587	Illinois EPA Boiler Operating Permit
73030719	Illinois EPA Boiler Operating Permit
73030349	Illinois EPA Boiler Operating Permit
73030718	Illinois EPA Boiler Operating Permit
08110033	Illinois EPA Boiler Operating Permit
80060038	Illinois EPA Boiler Operating Permit
06090072	Illinois EPA Dust Collector Operating Permit
04070118	Illinois EPA Dust Collector Operating Permit
07080032	Illinois EPA Dust Collector Operating Permit
06120085	Illinois EPA Dust Collector Operating Permit
05010035	Illinois EPA Dust Collector Operating Permit
0312	Illinois EPA Special Waste Handling Permit

001197

ADDENDUM TO:
USEPA FORM 3510-1

X. EXISTING ENVIRONMENTAL PERMITS

NOTE: 1.) Pertains to all Olin-Marion facilities
2.) Active permits as of March 87

ILLINOIS EPA AIR POLLUTION CONTROL PERMITS:

ID NO.: 199862AAB

PERMIT NOS.:	73030350	77080032
	73030352	78110033
	73030353	82040075
	73030720	82040082
	74010107	83090009
	75010035	84090038
	76120085	85010047
	76120086	85040008
	76090072	86090004

ILLINOIS EPA WATER POLLUTION CONTROL PERMIT:

PERMIT NO.: 1983-EA-1675 (INDUSTRIAL TREATMENT PLANT)

ILLINOIS EPA LAND POLLUTION CONTROL PERMITS:

PERMIT NOS.: 1982-9-OP (WASTE MANAGEMENT FACILITY - ORDILL)
1981-58-OP (WASTE MANAGEMENT FACILITY - TEST RANGE)
0312 (SPECIAL WASTE HAULING PERMIT)
950421 (SPECIAL WASTE STREAM PERMIT - ORDILL STORAGE)
997506 (SPECIAL WASTE STREAM PERMIT - TEST RANGE)

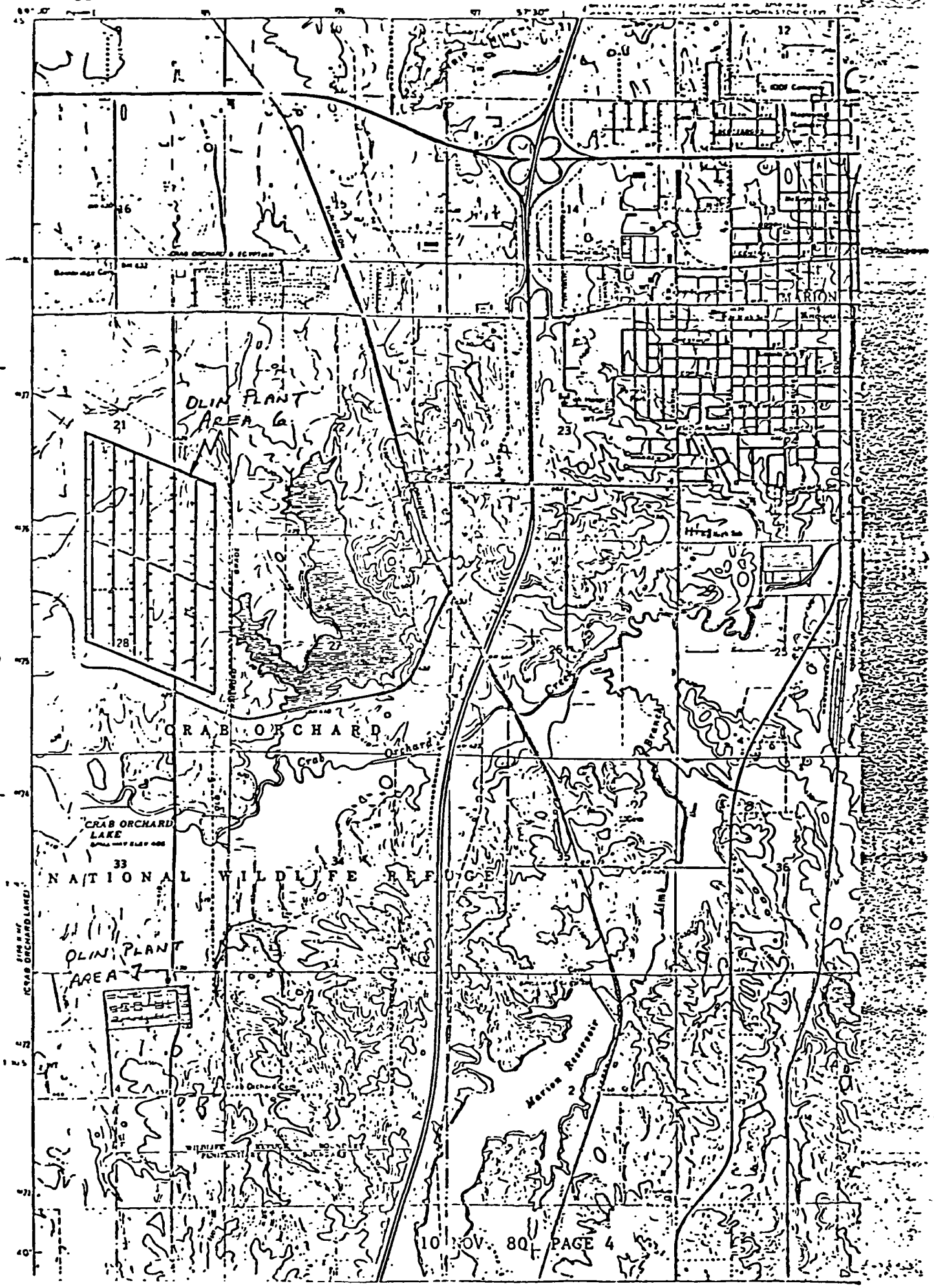
001198

MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

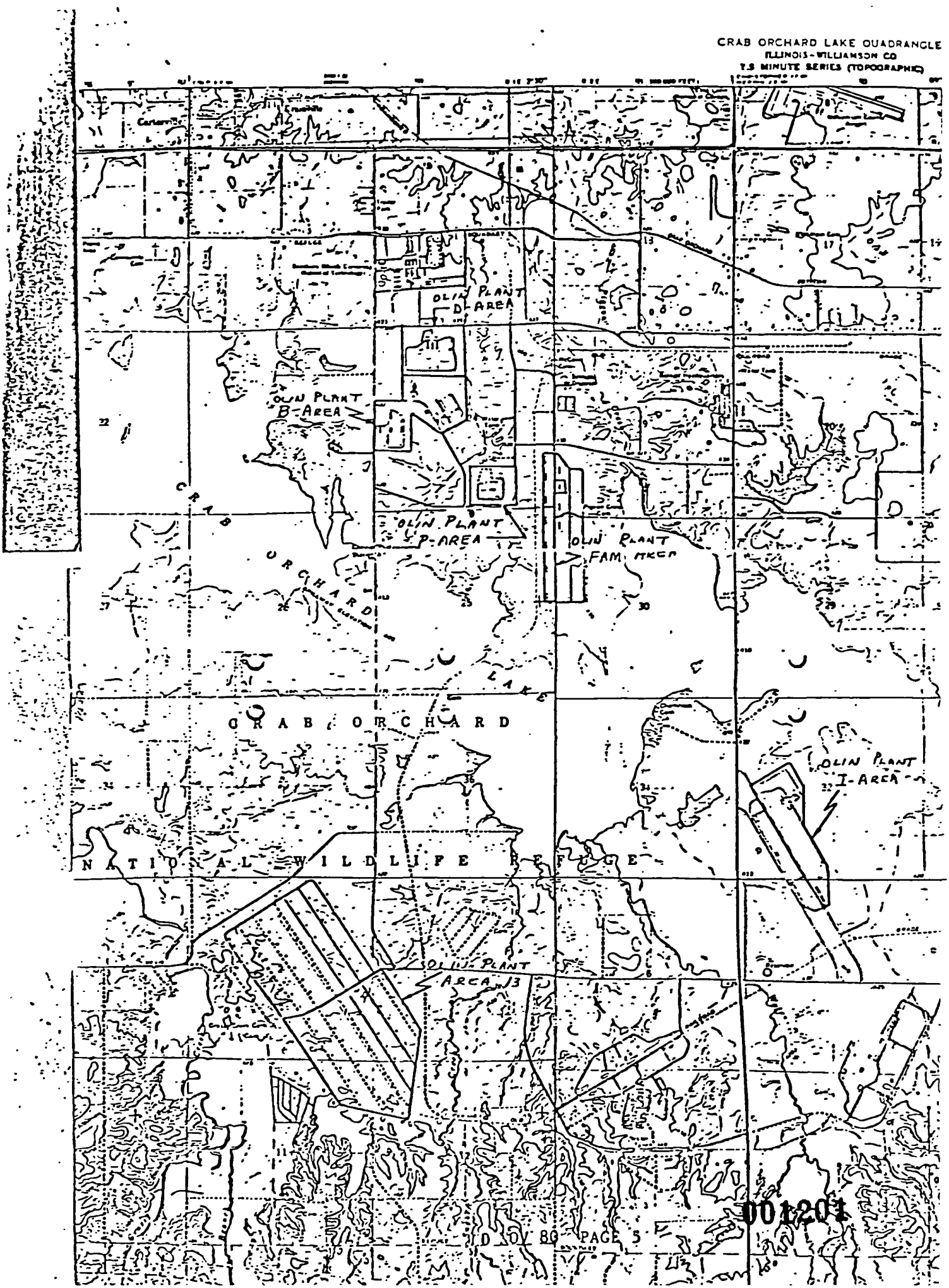
FORM 1 GENERAL ATTACHMENTS: 1.) 10 NOV. 80 PAGE 4 AND 5
2.) MARCH 87 PAGE 4 - 10

REQUEST/DEMONSTRATION: Olin requests that page 4 and 5 of the 10 Nov. 80 submittal pertaining to "XI: Geological Survey Maps" be deleted and replaced with the submittal for March 87 pages 4 through 10 since they are more consistent with Form 3 of the 10 Nov. 80 submittal and provide a better representation of the facility and various areas.

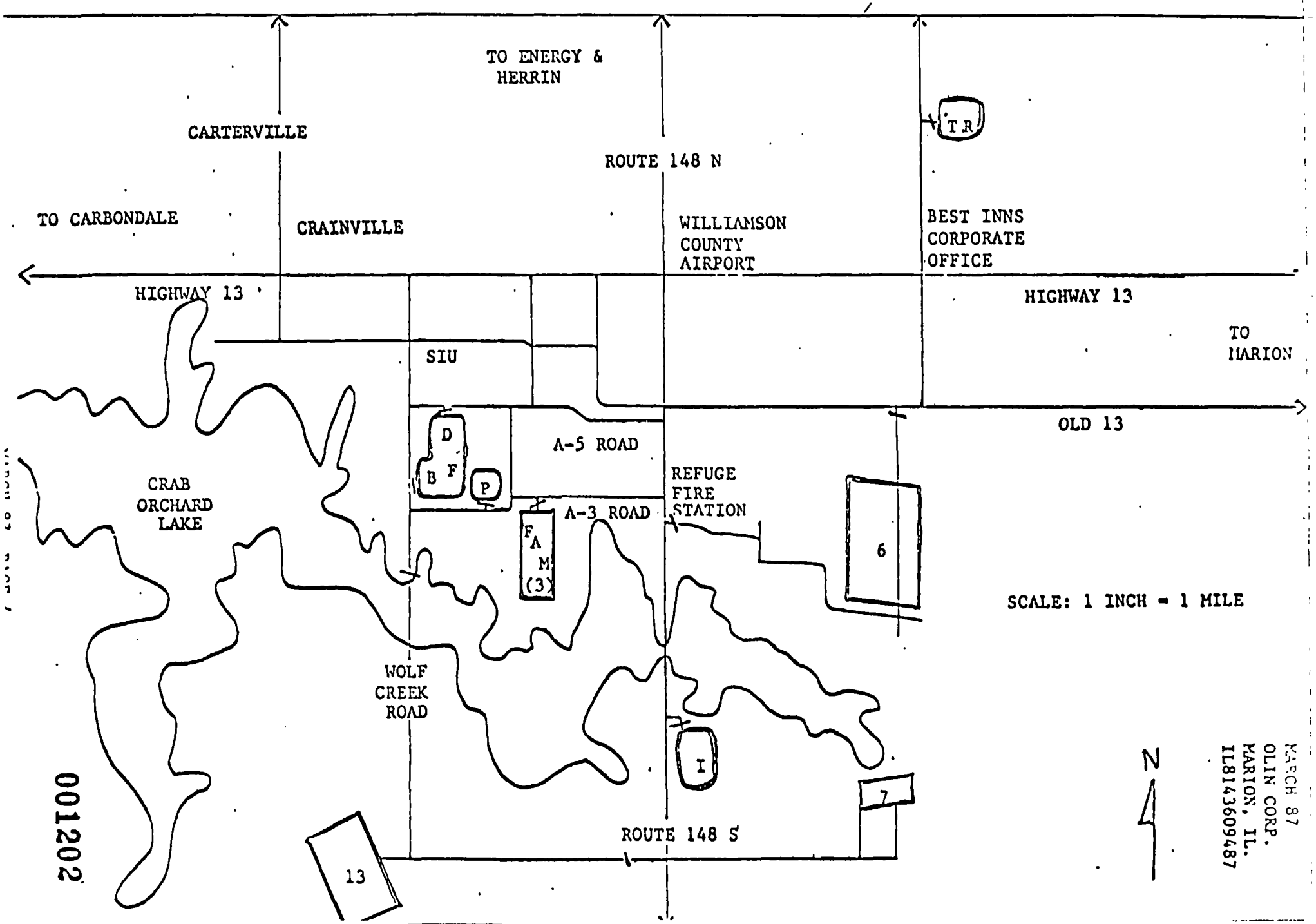
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



001200


CRAB ORCHARD LAKE QUADRANGLE
ILLINOIS-WILLIAMSON CO
7.5 MINUTE SERIES (TOPOGRAPHIC)
OLIN PLANT D-AREA
OLIN PLANT B-AREA
OLIN PLANT P-AREA
OLIN PLANT FARMER
CRAB ORCHARD LAKE
CRAB ORCHARD NATIONAL WILDLIFE REFUGE
OLIN PLANT I-AREA
OLIN PLANT AREA 13

001203


TO ENERGY & HERRIN
CARTERVILLE
ROUTE 148 N
T R
TO CARBONDALE
CRAINVILLE
WILLIAMSON COUNTY AIRPORT
BEST INNS CORPORATE OFFICE
HIGHWAY 13
HIGHWAY 13
TO MARION
SIU
OLD 13
D
B F
P
A-5 ROAD
REFUGE FIRE STATION
CRAB ORCHARD LAKE
A-3 ROAD
F A M (3)
6
SCALE: 1 INCH = 1 MILE
WOLF CREEK ROAD
I
7
ROUTE 148 S
13
N
001202
MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

XI. MAPS - TOPOGRAPHIC

The maps on the following pages were excerpted from the geological survey map as indicated. The areas of Olin included are as follows:

P AREA
AREA 13

CRAB ORCHARD LAKE QUADRANGLE
ILLINOIS-WILLIAMSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ROAD CLASSIFICATION

Heavy duty — Light-duty
Medium-duty — Unimproved dirt
State Route

QUADRANGLE LOCATION

CRAB ORCHARD LAKE, ILL.

N3737.5—W8900/7.5

1966
PHOTOREVISED 1978
AMS 3159 II NE-SERIES V863

Mapped, edited, and published by the Geological Survey

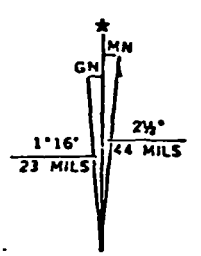
Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1963. Field checked 1966

Polyconic projection. 1927 North American datum
10,000-foot grid based on Illinois coordinate system, east zone
1000-meter Universal Transverse Mercator grid ticks, zone 16, shown in blue

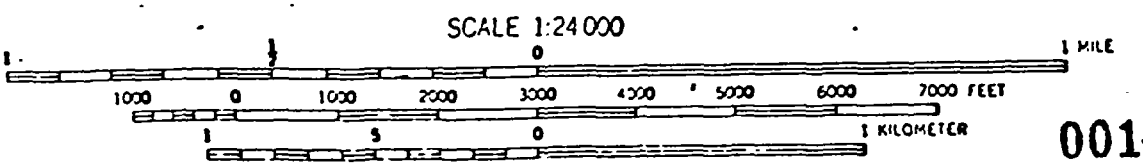
Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked

Revision shown in purple compiled from aerial photographs taken 1976 and other source data. This information not field checked. Map edited 1978



UTM GRID AND 1978 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

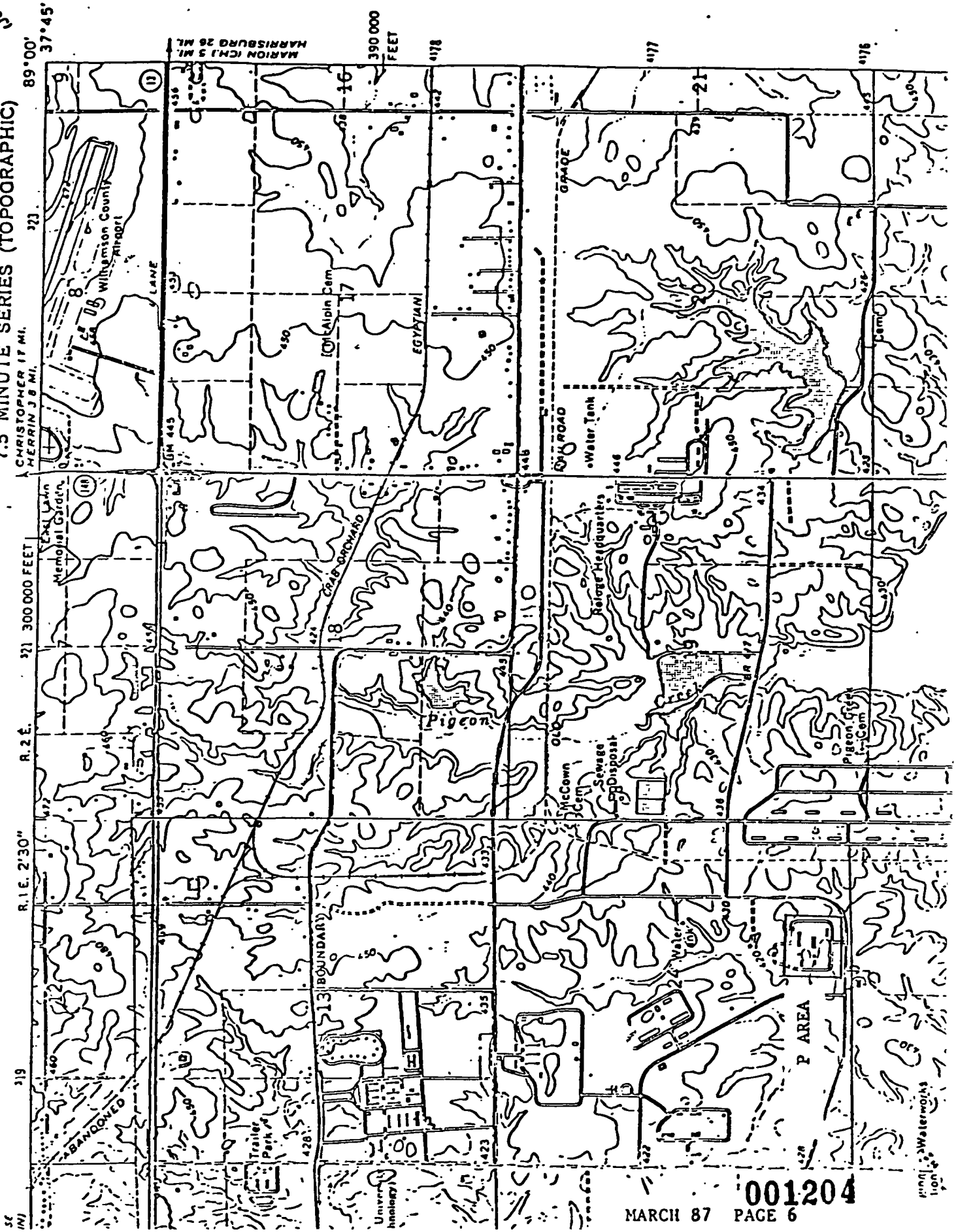


CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

001203

XI. MAPS

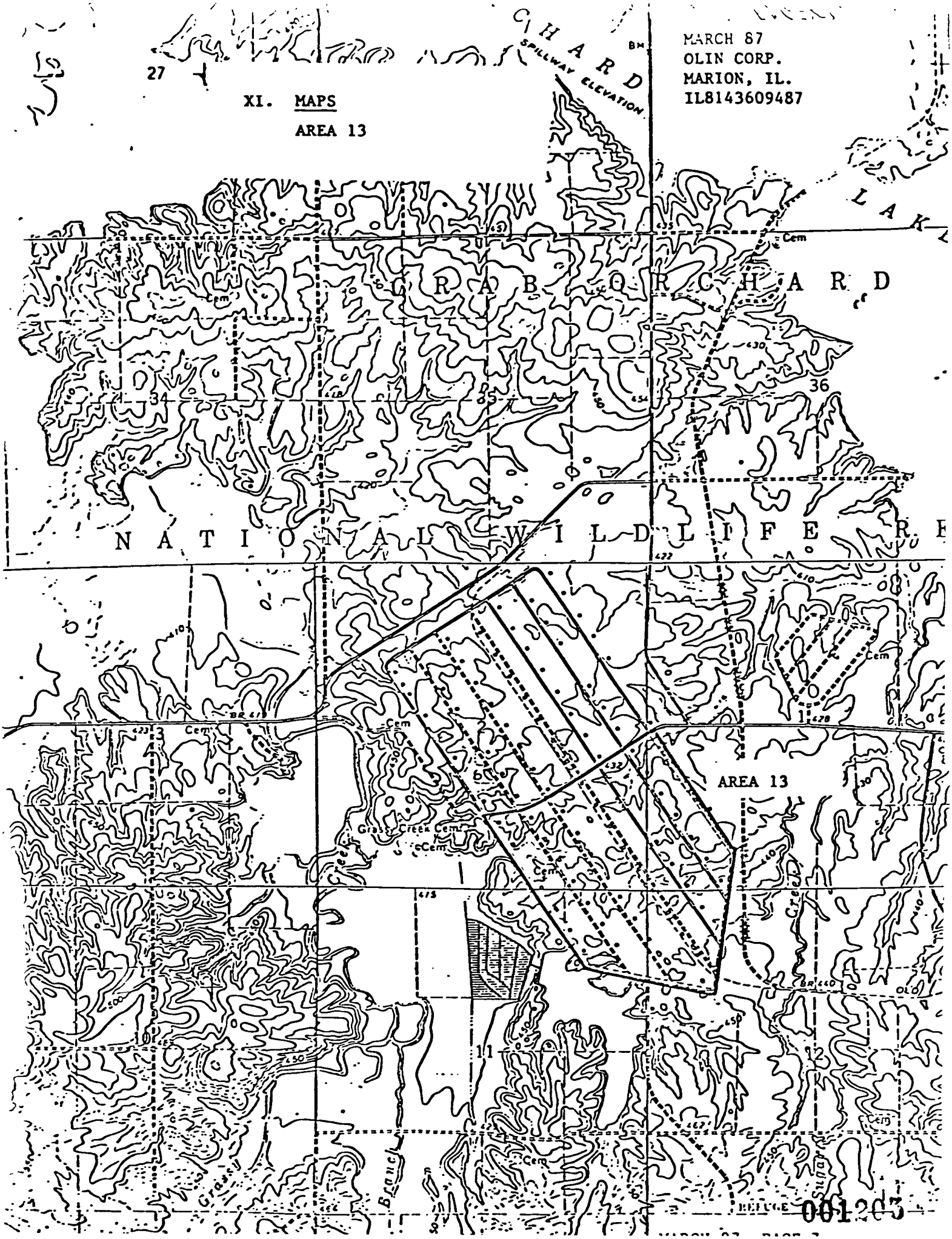
P AREA



MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

XI. MAPS

AREA 13



XI. MAPS - TOPOGRAPHIC

The maps on the following pages were excerpted from the geological survey map as indicated. The areas of Olin included are as follows:

AREA 7
AREA 6

MARION QUADRANGLE
ILLINOIS-WILLIAMSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt .....
Interstate Route State Route

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MARION, ILL.
N3737.5-W8852.5/7.5

1966
PHOTOREVISED 1978
AMS 3259 III NW-SERIES V863

QUADRANGLE LOCATION

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

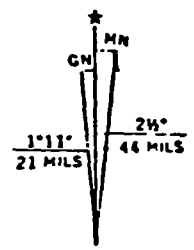
Topography by photogrammetric methods from aerial photographs taken 1963. Field checked 1965-66

Polyconic projection. 1927 North American datum
10,000-foot grid based on Illinois coordinate system, east zone
1000-meter Universal Transverse Mercator grid ticks, zone 16, shown in blue

Red tint indicates area in which only landmark buildings are shown

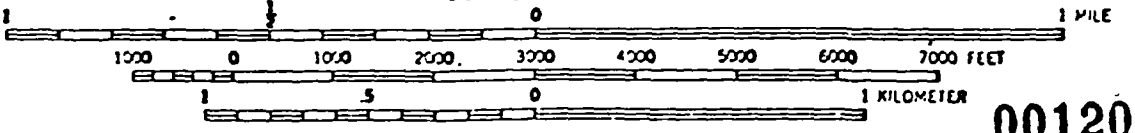
Area covered by dashed light-blue pattern is subject to controlled inundation

Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked

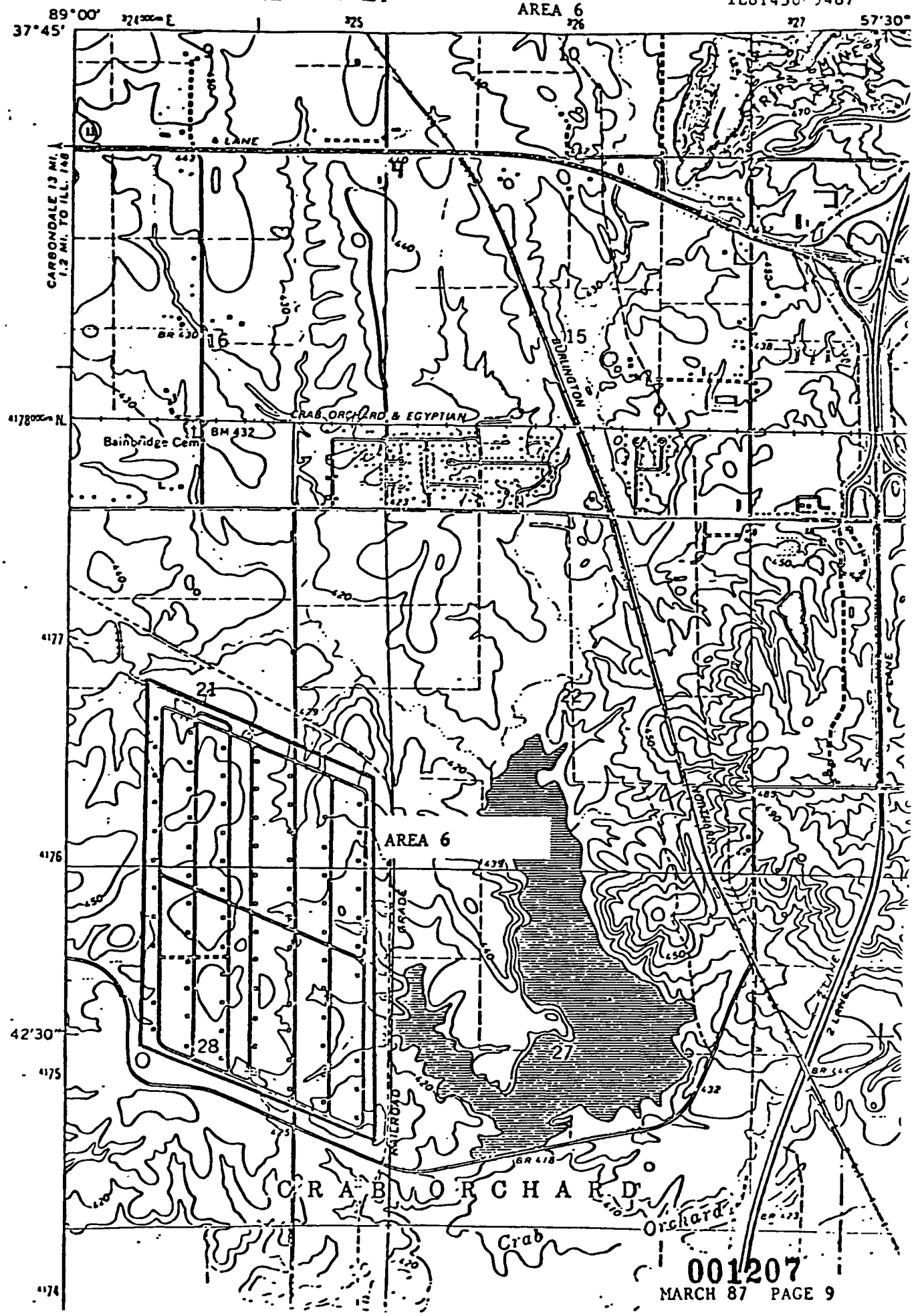


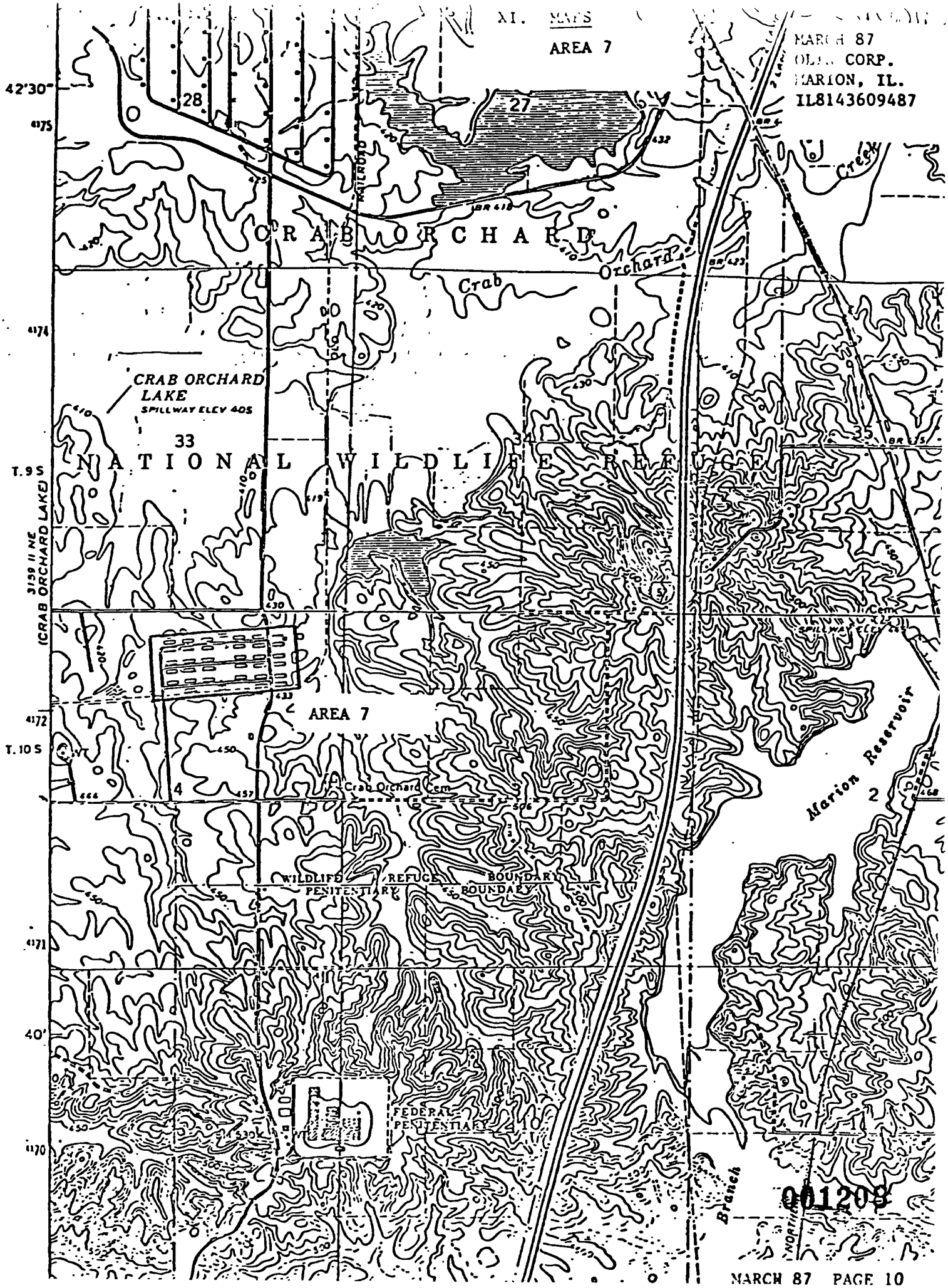
UTM GRID AND 1978 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24000



CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929


AREA 6
89°00'
37°45'
57'30"
42'30"
CARBONDALE 13 MI.
1.2 MI. TO ILL. 148
4 LANE
BURLINGTON
CRAB ORCHARD & EGYPTIAN
Bainbridge Cem
BM 432
16
15
21
22
28
27
AREA 6
RAILROAD
GRADE
CRAB ORCHARD
Crab
Orchard


AREA 7
MARCH 87
OLD... CORP.
MARION, IL.
IL8143609487
42'30"
4175
28
27
RAILROAD
CRAB ORCHARD
Orchard
Crab
Creek
4174
CRAB ORCHARD LAKE
SPILLWAY ELEV 405
33
34
35
NATIONAL WILDLIFE REFUGE
T. 9 S
3139 II NE (CRAB ORCHARD LAKE)
AREA 7
4172
T. 10 S
4
Crab Orchard Cem
Marion Reservoir
2
WILDLIFE REFUGE BOUNDARY
PENITENTIARY BOUNDARY
4171
40'
FEDERAL PENITENTIARY
4170
Branch
001209

MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

FORM 3 RCRA

MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

FORM 3 RCRA ATTACHMENTS: 1.) 10 Nov. 80 Page 1
2.) March 87 Page 1

REQUEST/DEMONSTRATION: Olin requests the following changes be accepted since this applies to a revised application and appropriate corrections are represented.

	ITEM	10 NOV. 80	MARCH 87
I.	EPA I.D. NUMBER	ILD006317473	IL8143609487
II.	FIRST OR REVISED APPLICATION		
	A. FIRST APPLICATION	1. EXISTING FACILITY 57 01 01	--
	B. REVISED APPLICATION	--	1. FACILITY HAS INTERIM STATUS
III.	PROCESSES		
	B. PROCESS DESIGN CAPACITY (IN GALLONS)	300,000	60,000

001210

FORM 3 — EPA

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA)

I. EPA I.D. NUMBER: F I L D 0 0 6 3 1 7 4 7 3

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*: YR. 57 MO. 01 DAY 01

[ ] 2. NEW FACILITY *(Complete item below)*

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR EXPECTED TO BEGIN: YR. MO. DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR OR GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	C

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

C DUP V/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	300,000	G		7				
2					8				
3					9		001211		
4					10				

EPA Form 3510-3 (6-80)

RCRA

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F I L 8 1 4 3 6 0 9 4 8 7

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facilit revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facil EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

☐ 2. NEW FACILITY *(Complete item belo*

FOR NEW FACIL PROVIDE THE D *(yr., mo., & day)* O TION BEGAN OR EXPECTED TO B

C 8 | YR. | MO. | DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.
1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT MEAS CO.
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	
LITERS	L	TONS PER HOUR	D	HECTARE-METER	
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	
GALLONS PER DAY	U	LITERS PER HOUR	H		

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

DUP | T/A | C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	60,000	G		7				
2					8				
3					9				
4					10				

001212

MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

FORM 3 RCRA ATTACHMENTS: 1.) 10 NOV 80 PAGE 2
2.) MARCH 87 PAGE 2

REQUEST/DEMONSTRATION: Olin requests that the pages be changed to reflect the submittal date and appropriate identification number.

001213

C SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "000") FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

V. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. I handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the chara tics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an a basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be ha which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appro codes are:

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

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

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Ite to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that p that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" i extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

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

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

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

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

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	001214
X-4	D 0 0 2				Included with above

C SPACE FOR ADDITIONAL PROCESS CODES. A FOR DESCRIBING OTHER PROCESSES (code ...) FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. I handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the chara tics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an a basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be ha which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appro codes are:

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

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

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in It to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of proces contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that p that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" i extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

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

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

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

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

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	001215
X-4	D 0 0 2				*Included with above*

MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

FORM 3 RCRA ATTACHMENTS: 1.) 10 NOV 80 PAGE 3
2.) MARCH 87 PAGE 3

REQUEST/DEMONSTRATION: Olin requests that storage pertaining to lines 3 through 26 on the 10 Nov. 80 application be deleted since these items are not stored.

In addition, Olin requests that the EPA I.D. number be properly identified and that line 1 and 2 be corrected to accurately describe the facility.

It is requested that the estimated annual quantity of waste be increased in order to better reflect the estimated annual quantity of waste and storage needs. Please note that on Page one of Form 3, that the process design capacity in "gallons" has been requested to be decreased significantly to correspond with the average density of waste potentially placed into storage.

...ued from page 2.
TIP: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1): I L D 0 0 6 3 1 7 4 7 3 — 1

FOR OFFICIAL USE ONLY: W DUP — 2 DUP

V. DESCRIPTION OF HAZARDOUS WASTES (continued)

	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D001	100,000	P	S01	
2	D003				INCLUDED WITH ABOVE
3	F002	1,000	P	S01	
4	U013	200	P	S01	
5	U102	50	P	S01	
6	U107	50	P	S01	
7	U160	50	P	S01	
8	U196	50	P	S01	
9	U201	100	P	S01	
10	U221	50	P	S01	
11	U223	100	P	S01	
	U105	10	P	S01	
	U154	200	P	S01	
	U002	200	P	S01	
15	P081	500	P	S01	
16	U226	150	P	S01	
17	U228	150	P	S01	
18	P009	100	P	S01	
19	P015	50	P	S01	
20	D005	500	P	S01	
21	D006	50	P	S01	
22	D007	50	P	S01	
23	D008	100	P	S01	
	D009	50	P	S01	
25	D010	5	P	S01	
26	D011	50	P	S01	

001217

TE Photocopy this page before completing if you have more than 25 wastes to list

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY	
IL814360948 7 1	W DUP 2	DUP

7. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D001	300,000	P	S01	
2	D003	INCLUDED WITH LINE 1	P	S01	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

001218

MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

FORM 3 RCRA ATTACHMENTS: 1.) 10 NOV. 80 PAGE 4
2.) MARCH 87 PAGE 4

REQUEST/DEMONSTRATION: Olin requests the following changes be accepted since these corrections appropriately describe the facility.

ITEM	10 NOV. 80	MARCH 87
EPA I.D. NO.	ILD006317473	IL8143609487
IX. OWNER CERTIFICATION		
A. NAME	WAYNE D. ADAMS PROJECT MANAGER	--
B. SIGNATURE	ORIGINAL SIGNED	--
C. DATE SIGNED	11-10-80	--
X. OPERATOR CERTIFICATION		
A. NAME	J.E. REDDEN VICE PRESIDENT, TSO	ARTHUR HEINZ, JR. DIRECTOR
B. SIGNATURE	(ORIGINAL SIGNED)	(APPROPRIATELY SIGNED)
C. DATE SIGNED	10-27-80	(APPROPRIATELY DATED)

NOTE: Upon Agency approval, the owner certification will be requested.

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

I	L	D	0	0	6	3	1	7	4	7	3			6

. FACILITY DRAWING

ll existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

HOTOGRAPHS

. existing facilities must include photographs *(aerial or ground-level)* that clearly delineate all existing structures; existing storage, atment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)						LONGITUDE (degrees, minutes, & seconds)					
3	7	4	4	0	0	8	9	0	1	1	5

III. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code &
U.S. GOV'T DEPT. OF INTERIOR, FISH AND WILDLIFE SERVICE	618-997-33

3. STREET OR P.O. BOX		4. CITY OR TOWN	5. ST.	6. ZIP CODE
P.O. BOX J	G	CARTERVILLE	IL	62918

. OWNER CERTIFICATION

certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached cuments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the ubmitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
WAYNE D. ADAMS PROJECT MANAGER	ORIGINAL SIGNED	11-10-80

X. OPERATOR CERTIFICATION

certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached ments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the su mitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
J.E. REDDEN VICE PRESIDENT, TSO	ORIGINAL SIGNED	10-27-80

001220

USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

F | I L 8 1 4 3 6 0 9 4 8 7 | | 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground-level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
3 7 4 4 0 0	8 9 0 1 1 5

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code &
E U.S. GOV'T. DEPT. OF INTERIOR, FISH AND WILDLIFE SERVICE	6 1 8 - 9 9 7 - 3 3

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F P.O. BOX J	G CARTERVILLE	I L	6 2 9 1 8

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

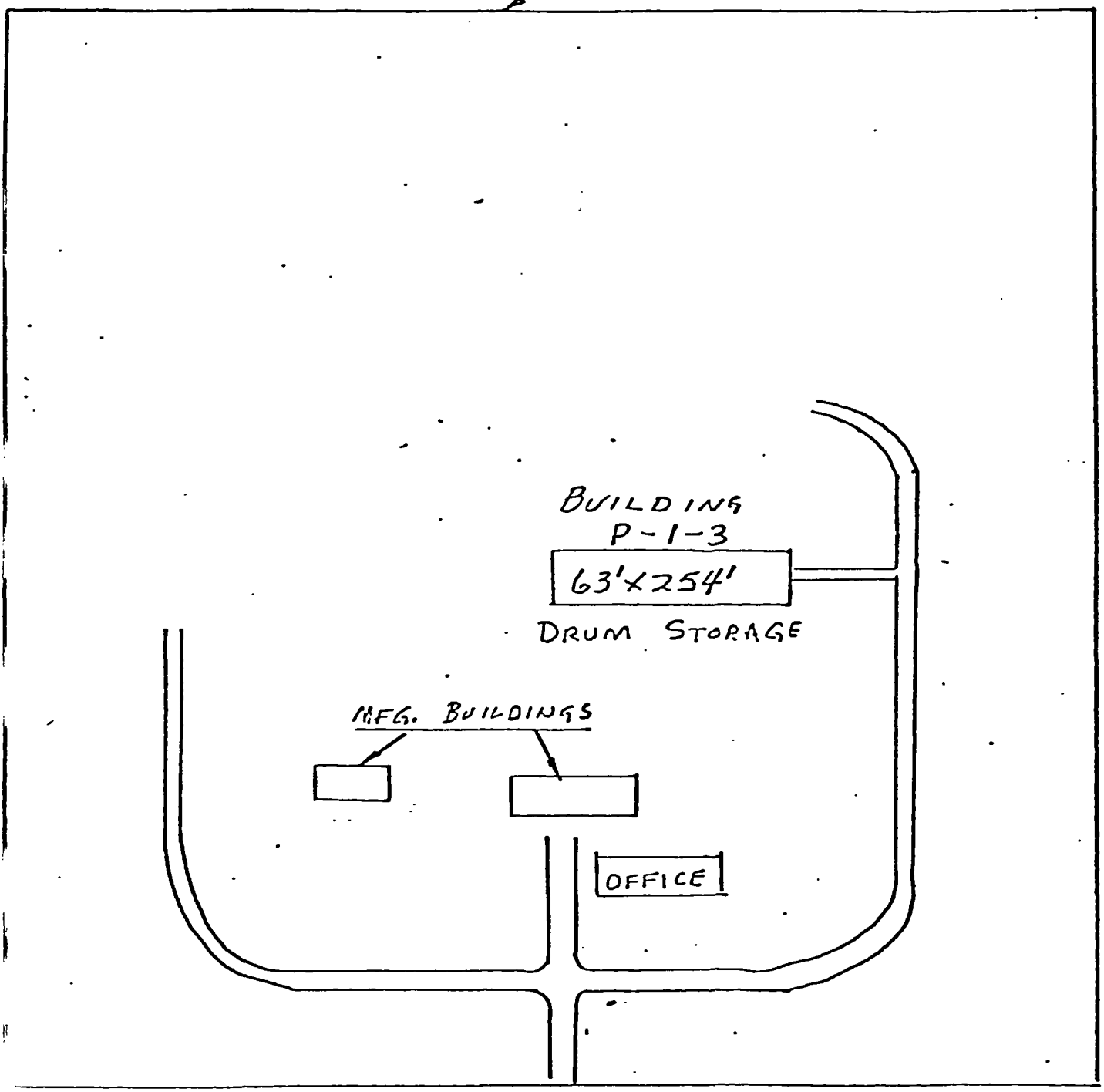
A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
ARTHUR HEINZ, JR. DIRECTOR	X Arthur Heinz, Jr.	001221 X 3/24/87

MARCH 87
OLIN CORP.
MARION, IL.
IL8143609487

FORM 3 RCRA ATTACHMENTS: 1.) 10 NOV. 80 PAGES 5 - 11

2.) MARCH 87 PAGES 5 - 13

REQUEST/DEMONSTRATION: Olin requests that the enclosed pages be changed to accurately describe the facility in order to comply with the regulations and the owner's request, U.S. Fish and Wildlife Service. It should be noted that three storage buildings have been added in Area 13, buildings 13-3-9, 13-3-10, and 13-3-13. Buildings P-1-3, 7-1-2, 7-3-3, 6-1-6, 6-1-2, and 6-7-1 are inactive storage buildings.

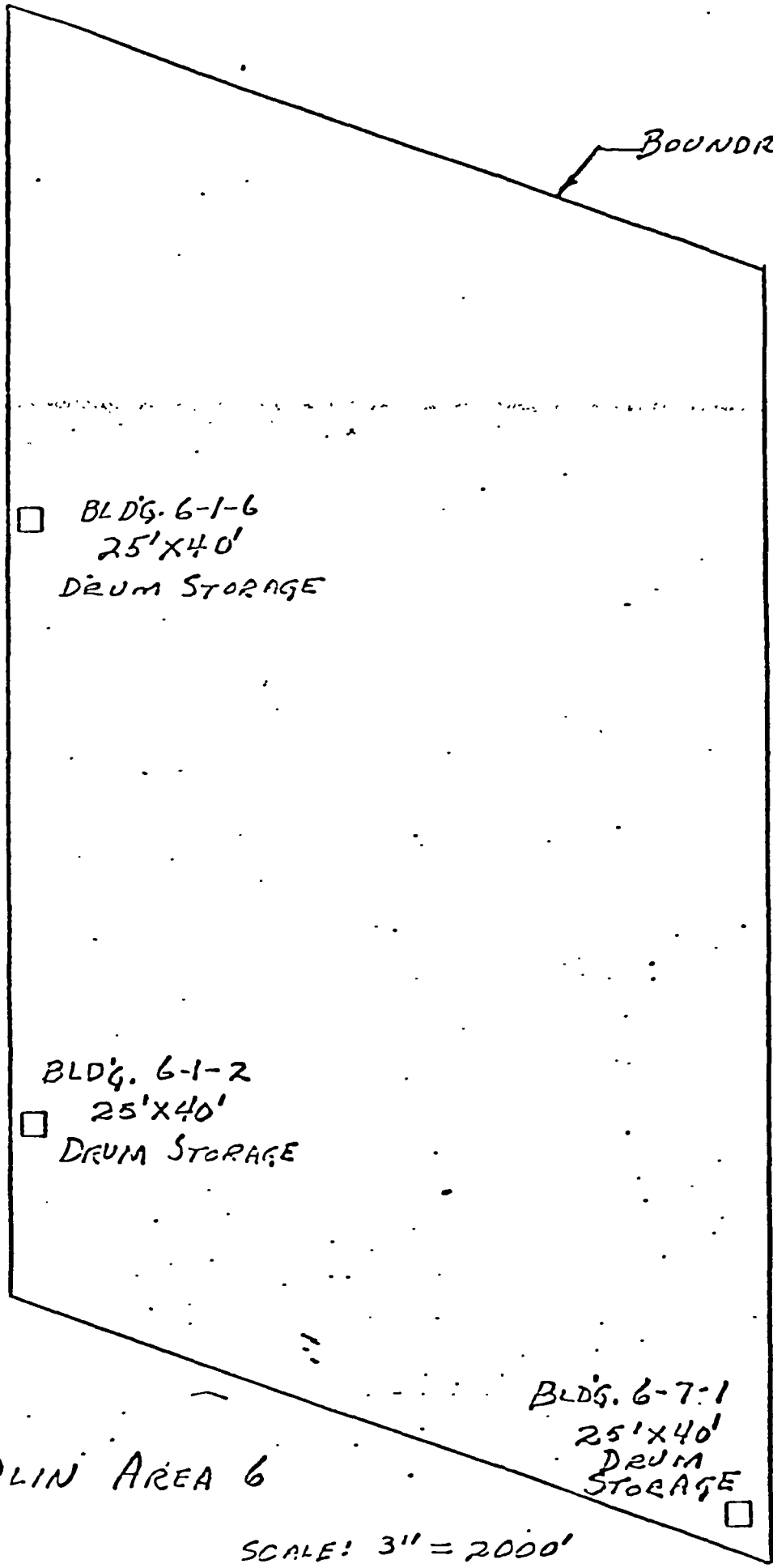


SCALE: 1" = 200'

OLIN P-AREA

001223

10 NOV 80

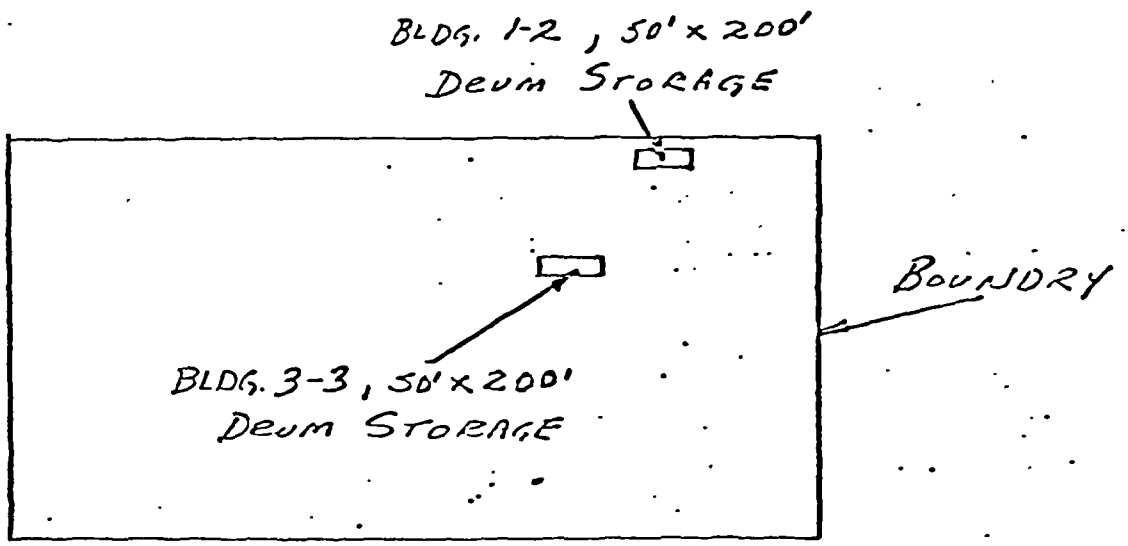


OLIN AREA 6

SCALE: 3" = 2000'

001224

10 NOV. 80

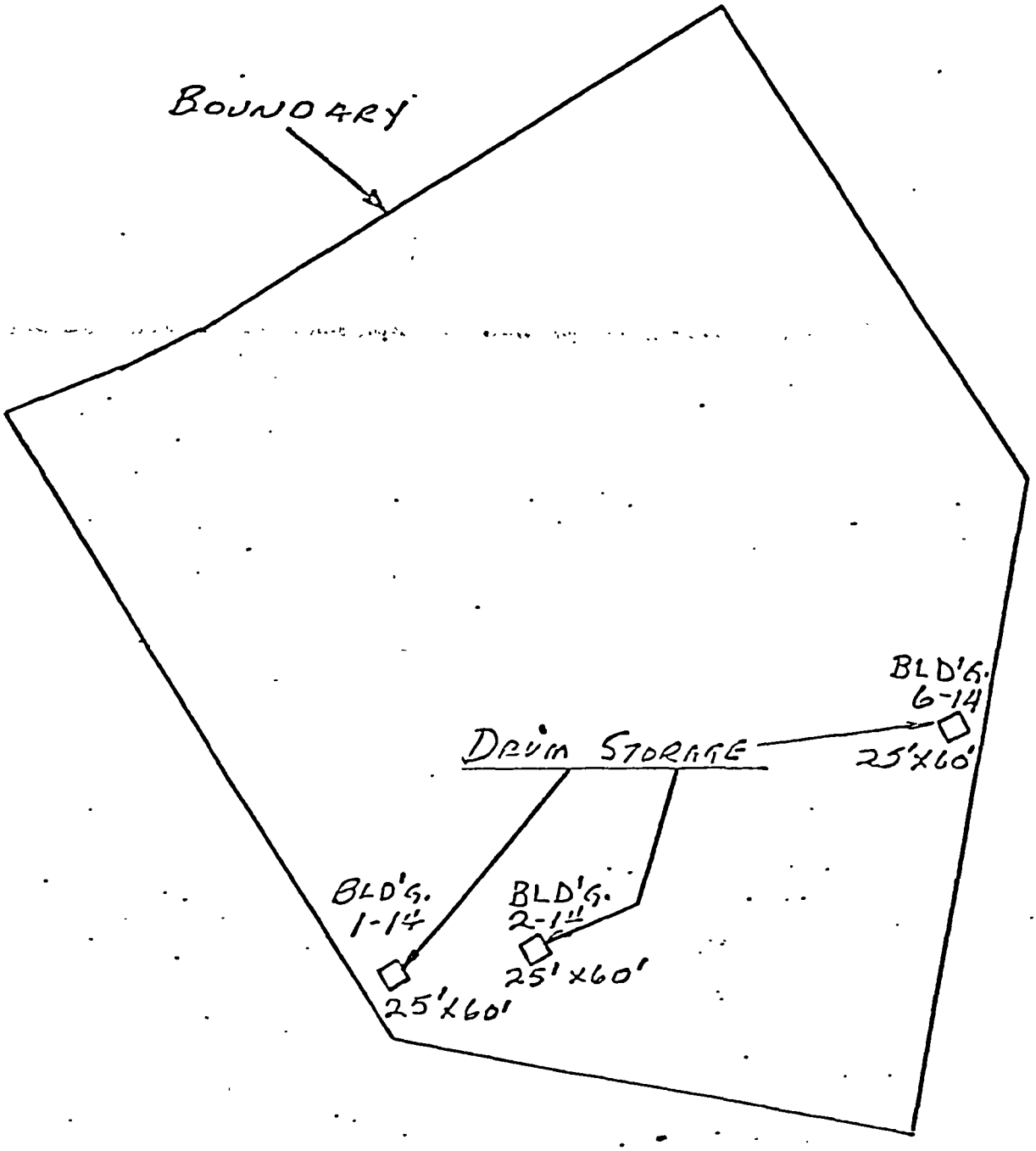


OLIN AREA 7

SCALE: 1" = 500'

001225

10 NOV. 80

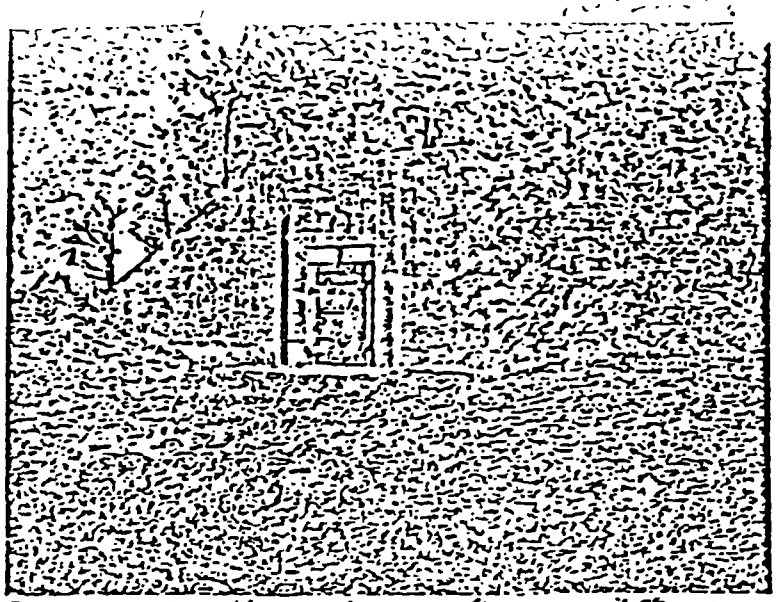


OLIN AREA 13

SCALE: 3" = 2000'

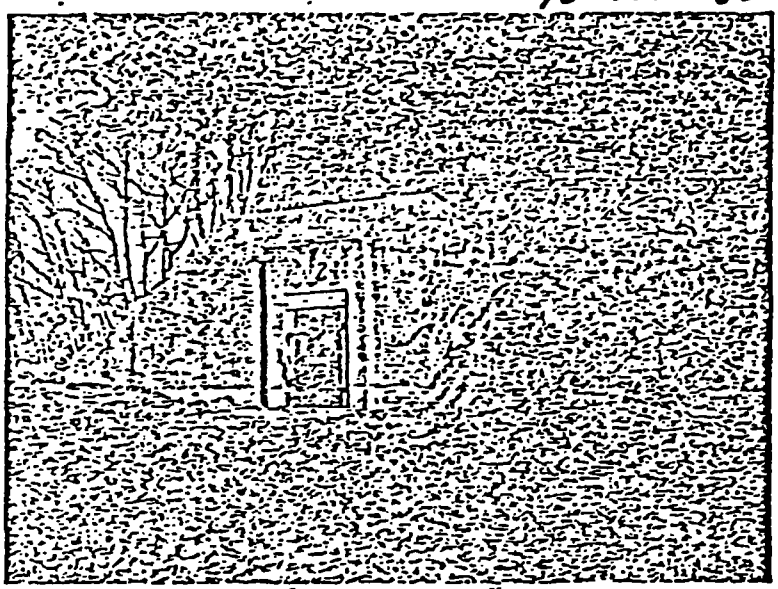
001226

10 NOV. 80



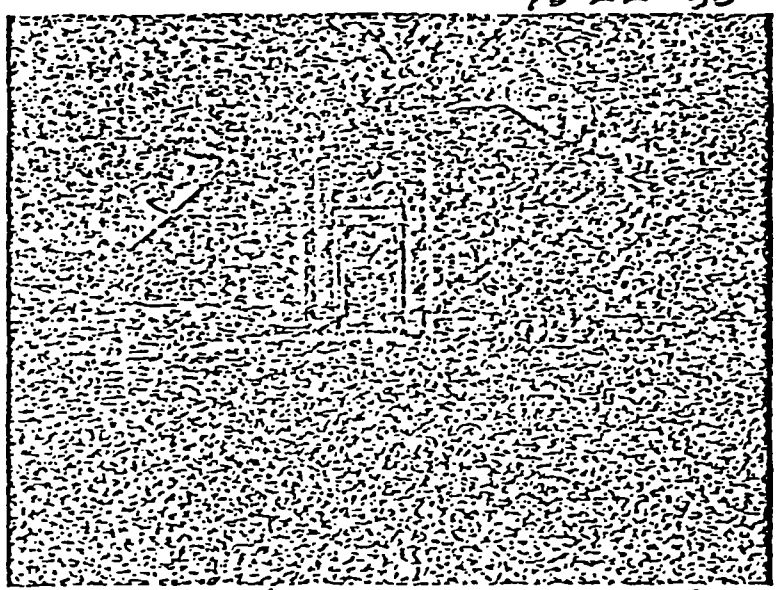
BLDG. 1-14 OLIN AREA 13

10-22-80



BLDG. 2-14 · OLIN AREA 13

10-22-80



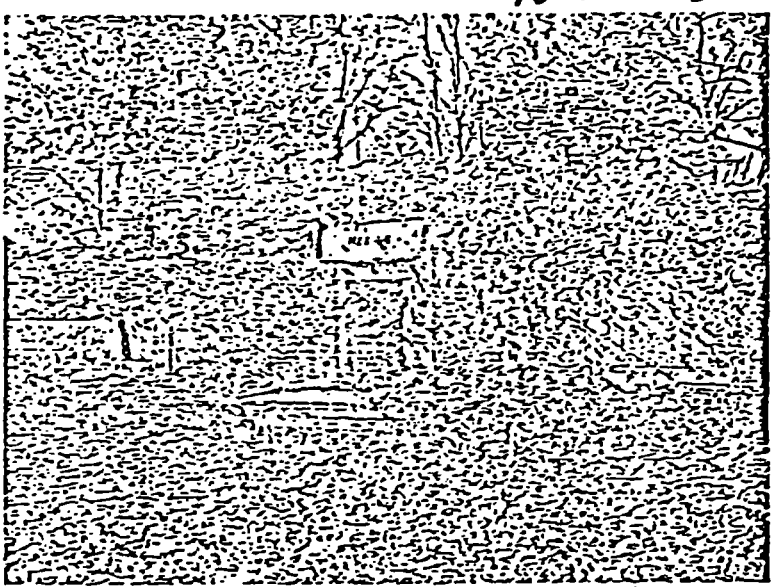
BLDG. 6-14 OLIN AREA 13

001227

10 NOV. 80

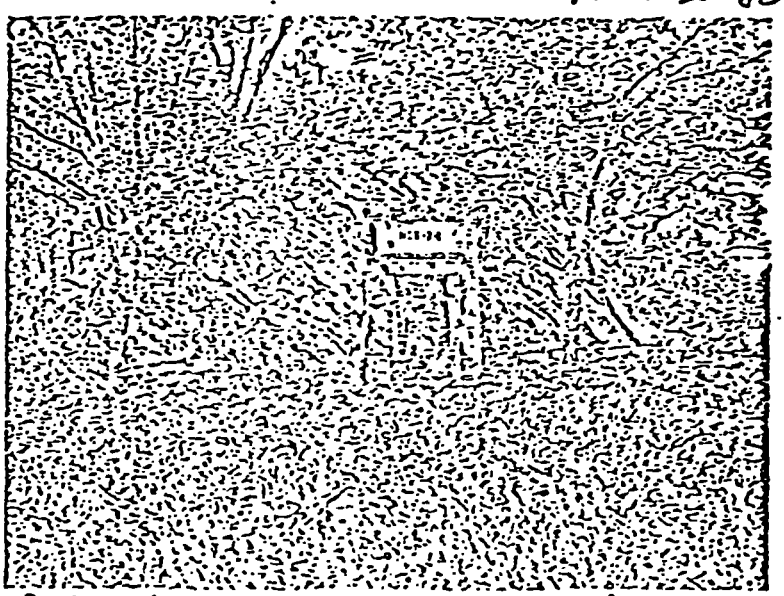
BLDG. 6-1-2 OLIN AREA 6

10-22-80



BLDG. 6-1-6 OLIN AREA 6

10-22-80

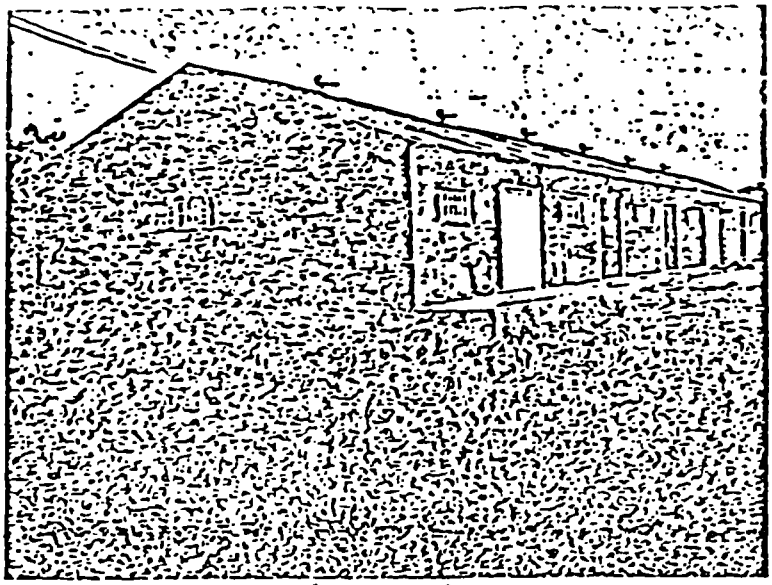


BLDG. 6-7-1 OLIN AREA 6

001228

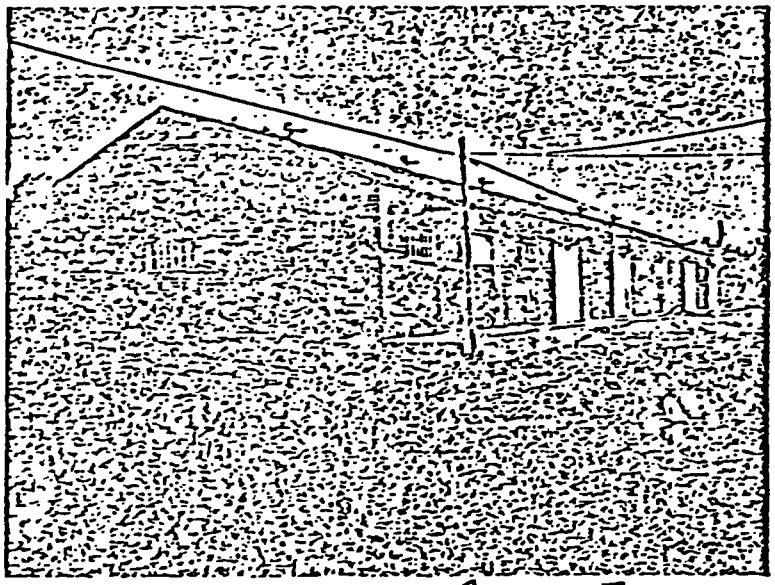
10 NOV. 80

10-22-



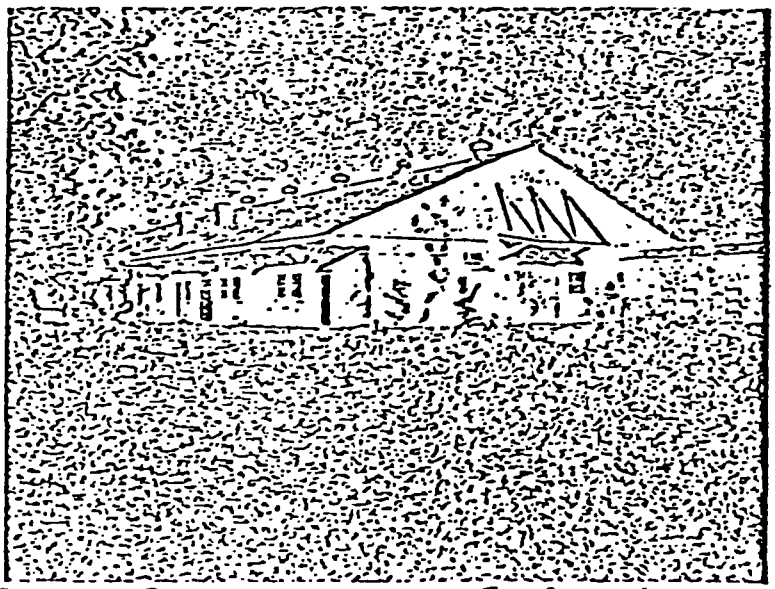
BLDG. 1-2 OLIN AREA 7

10-22-80



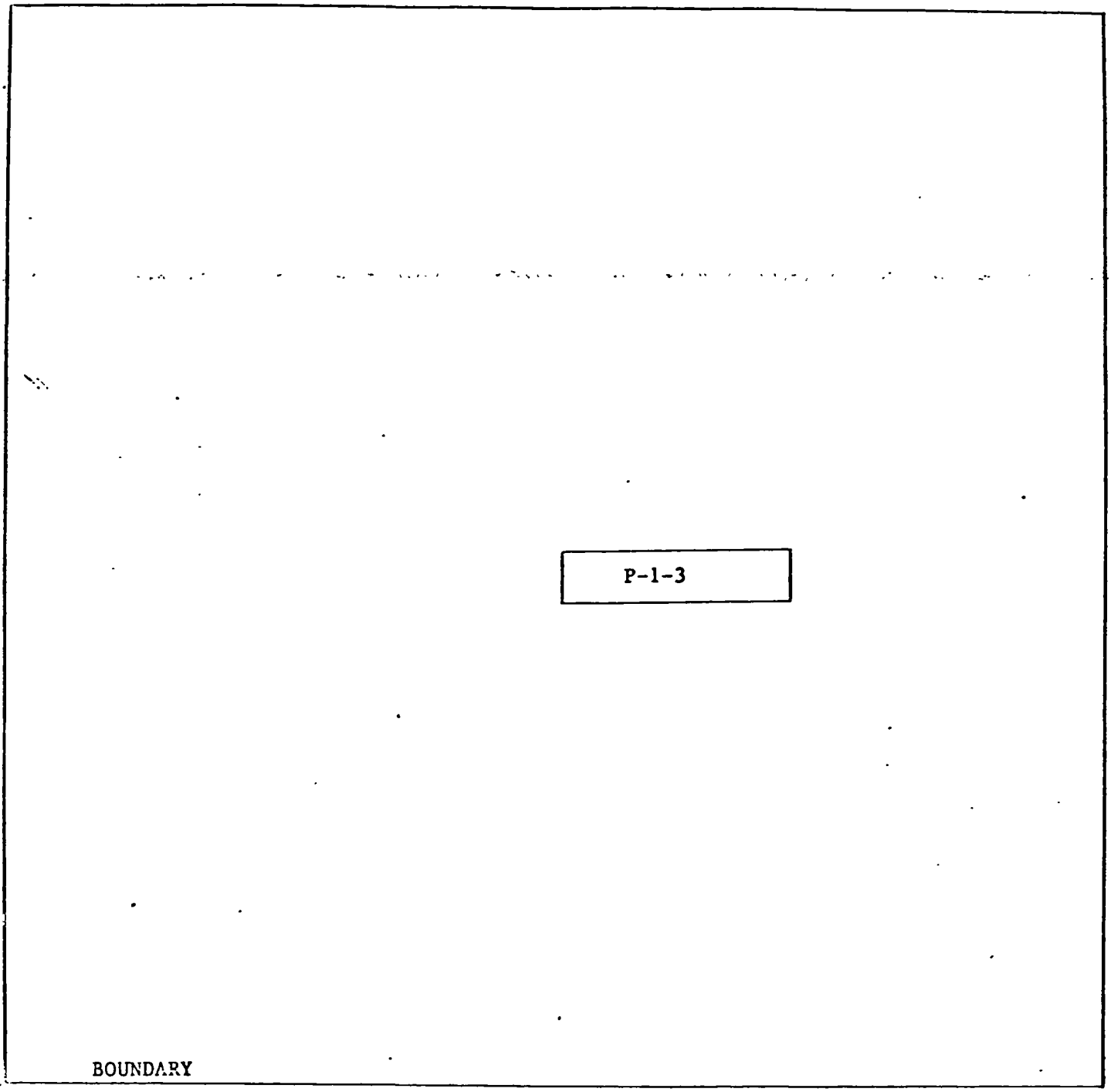
BLDG. 3-3 OLIN AREA 7

10-22-80



BLDG P-1-3 OLIN P AREA

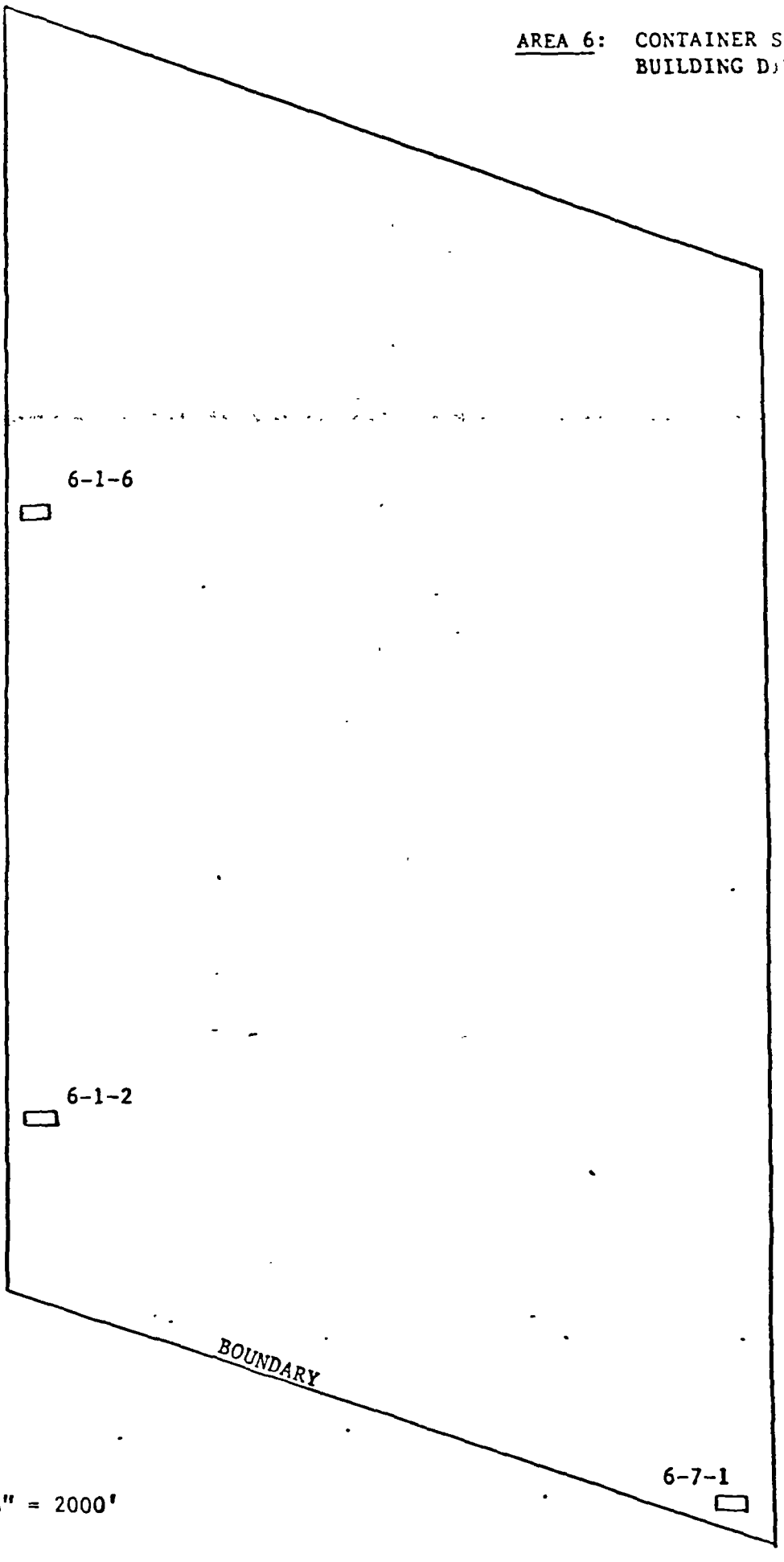
P AREA: P-1-3 CONTAINER STORAGE
BUILDING DIMENSION: 63' X 254'



SCALE: 1" = 200'

001230

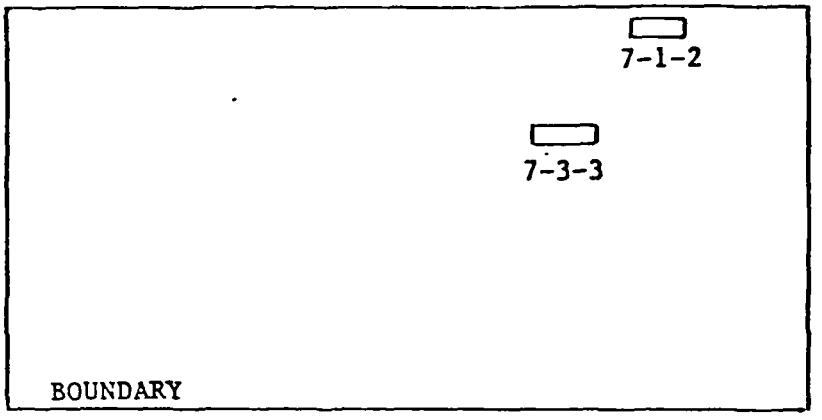
AREA 6: CONTAINER STORAGE
BUILDING DIMENSIONS: 25' X
EACH



SCALE: 3" = 2000'

001231

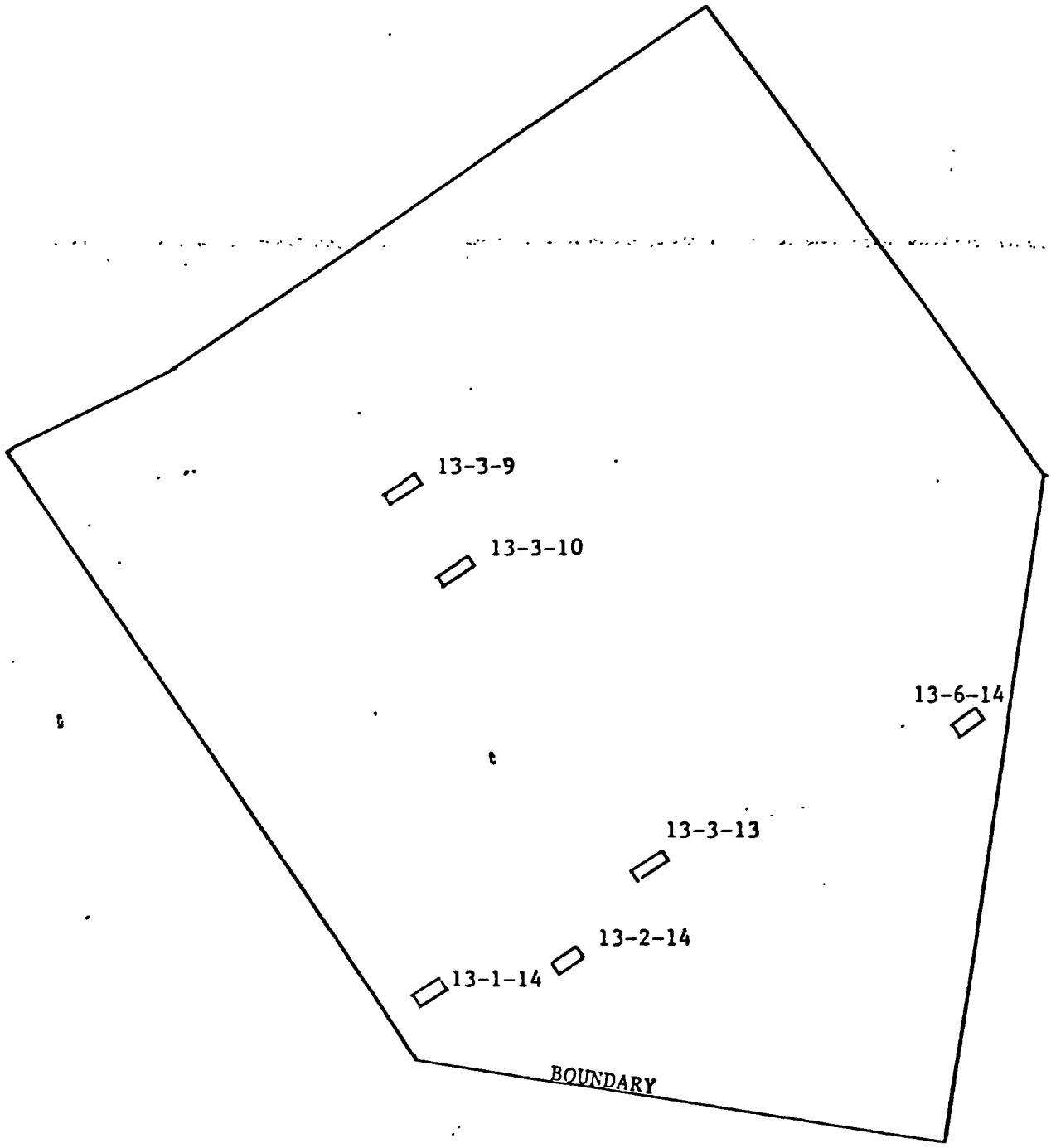
AREA 7: CONTAINER STORAGE
BUILDING DIMENSIONS: 50' X 200' EACH



001232

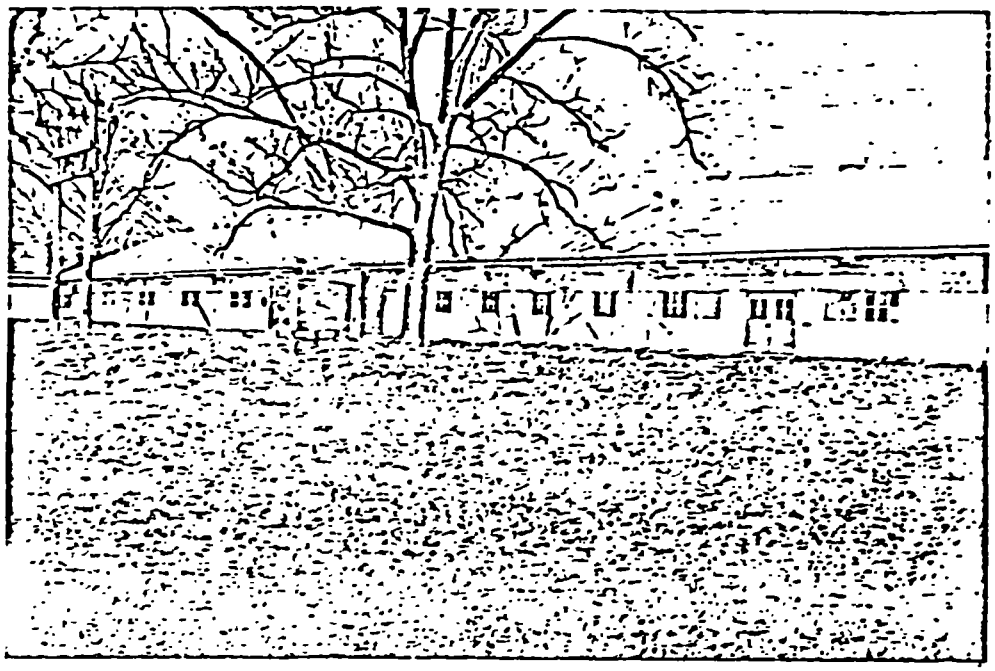
SCALE: 1" = 500'

AREA 13: CONTAINER STORAGE
BUILDING DIMENSIONS: 25' X 60' EACH



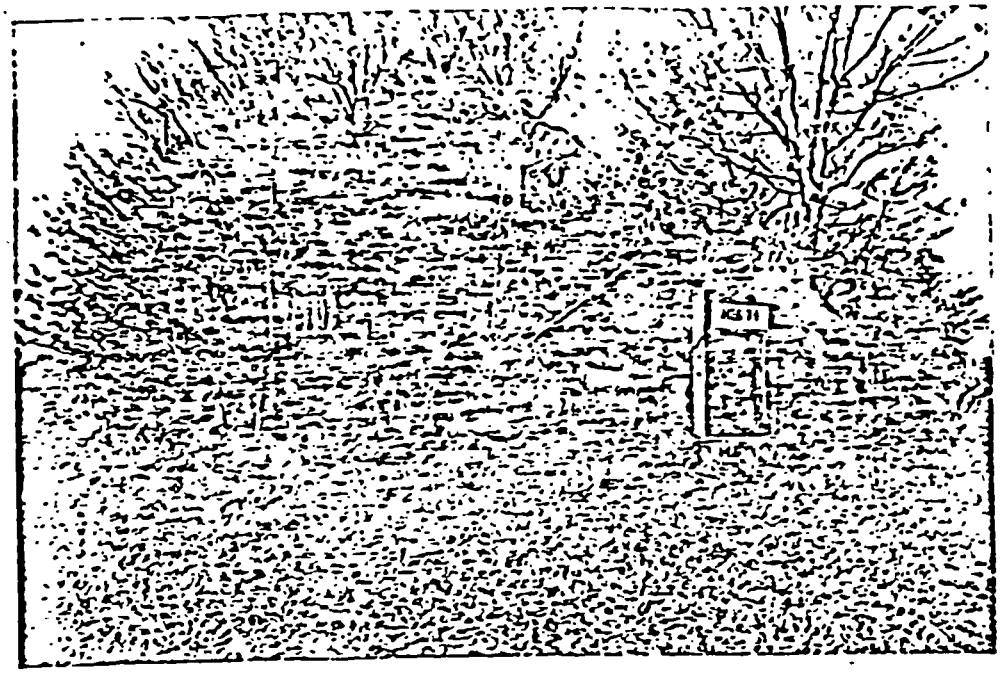
001233

SCALE: 3" = 2000'

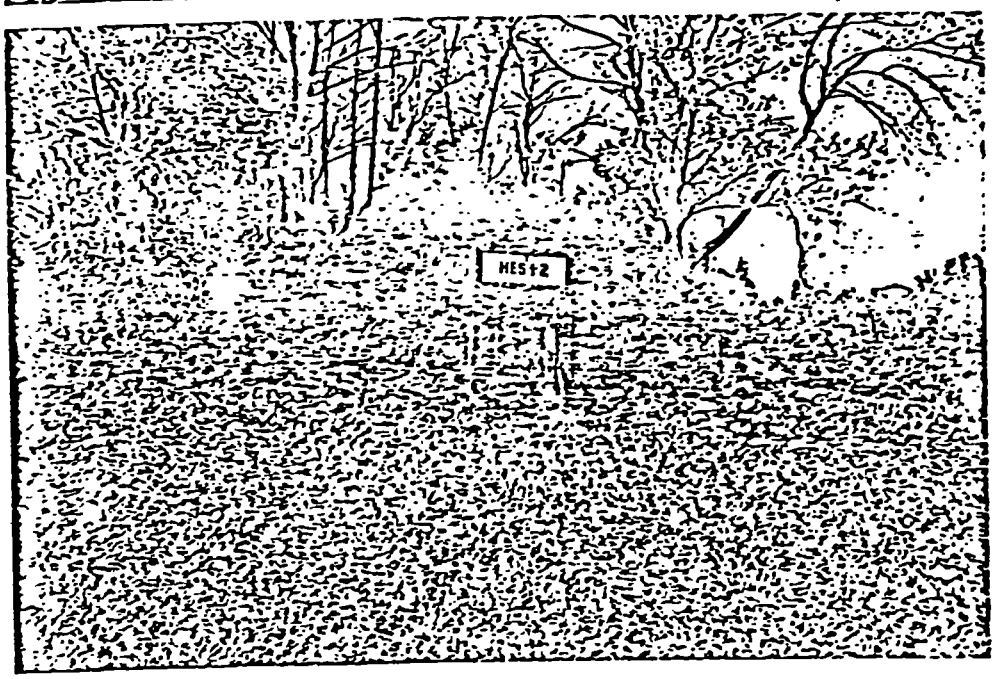


P-1-3'
NOV. 3, 1986

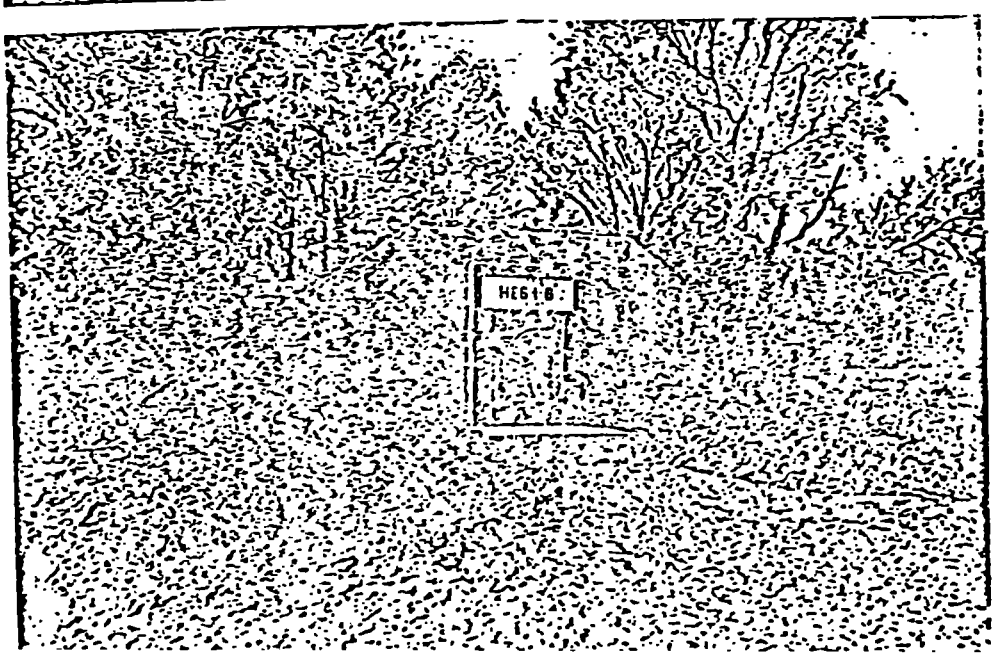
OLIN CO
MARIO
IL814 60



6-7-1
OCT. 31, 1986

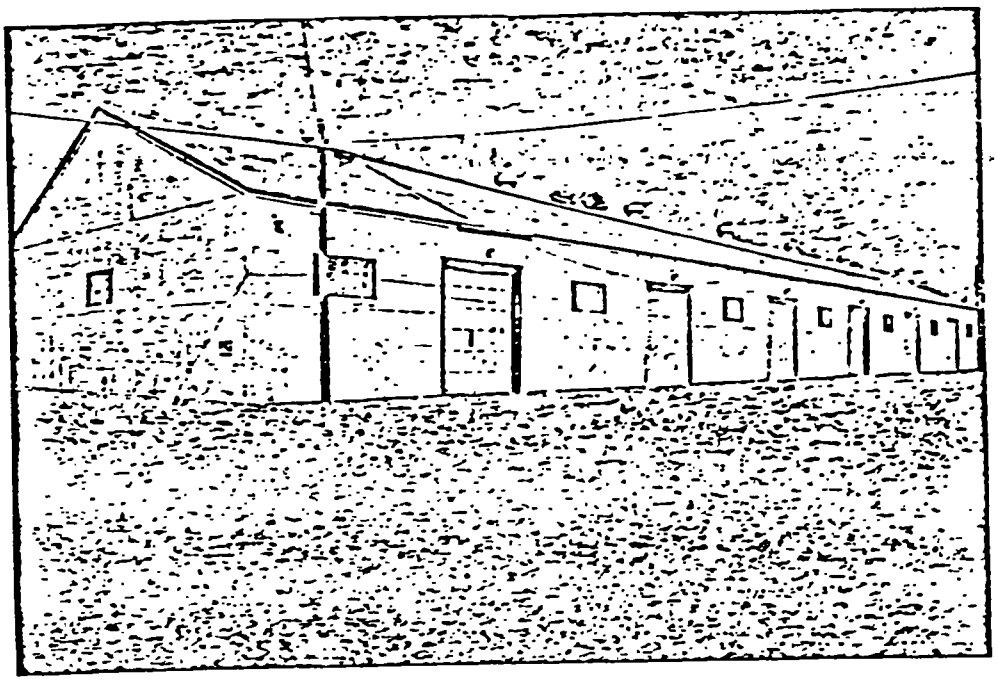


6-1-2
OCT. 31, 1986

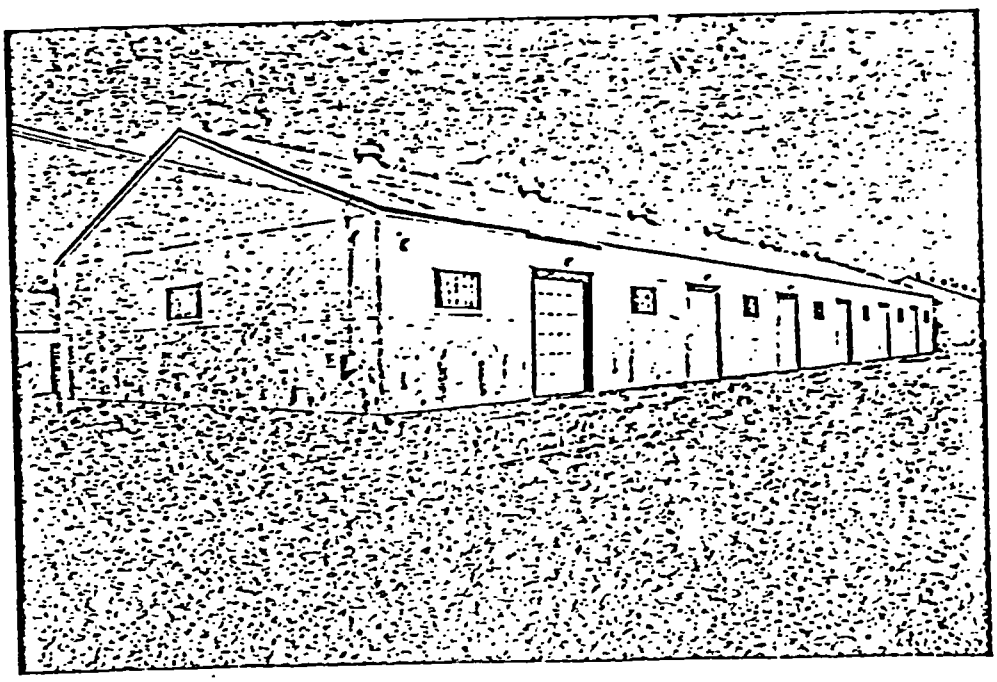


6-1-6
OCT. 31, 1986

PHOTOGRAPHS: AREA 7



7-1-2
OCT. 31, 1986



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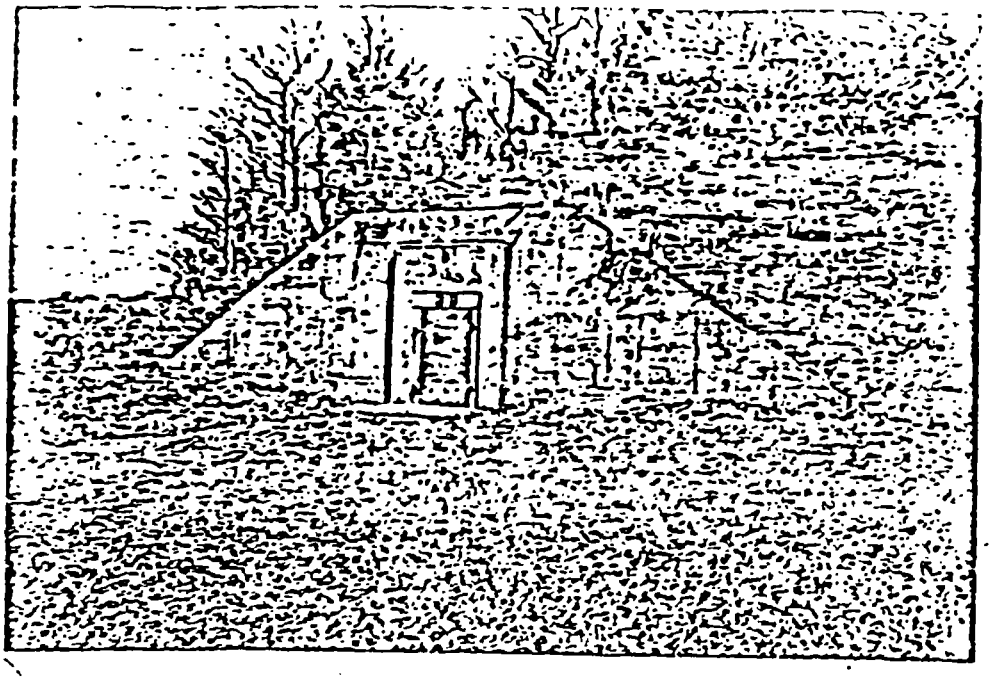
OCT. 31, 1986



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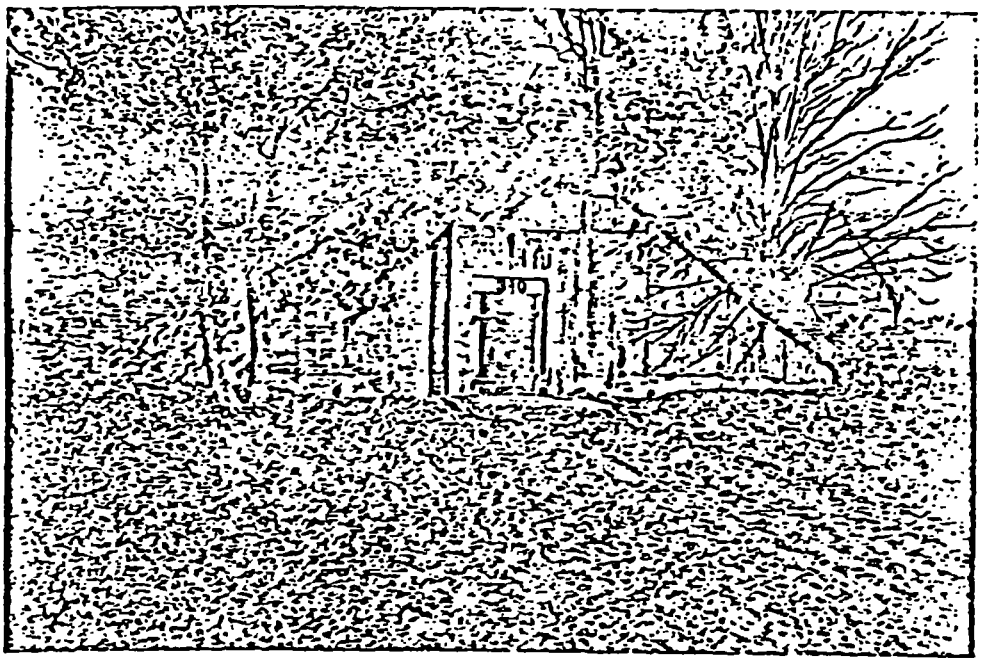
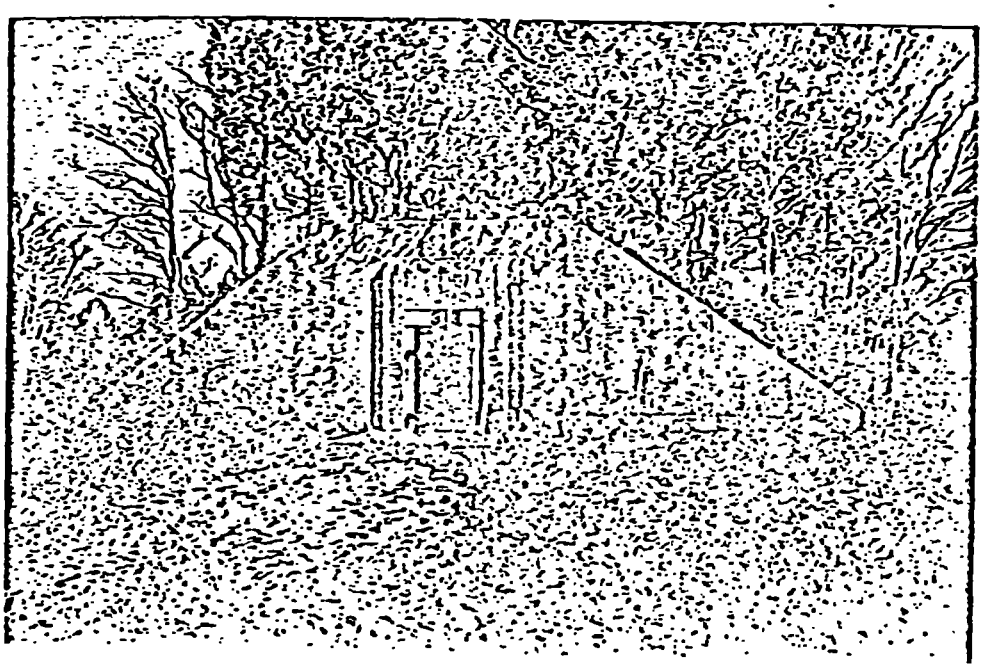
OCT. 31, 1986

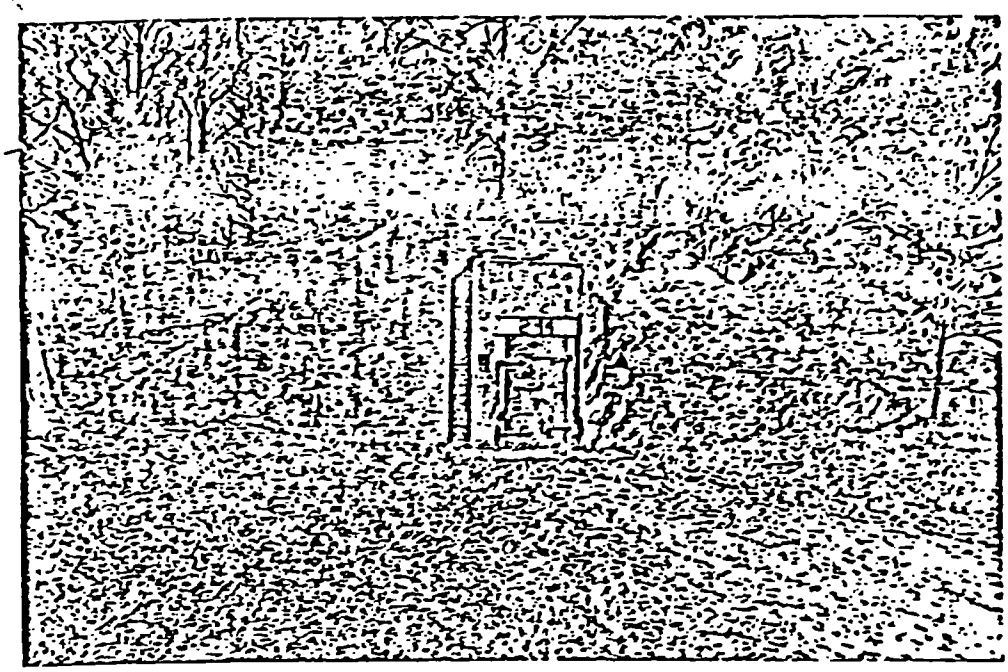


13-3-10
OCT. 31, 1986

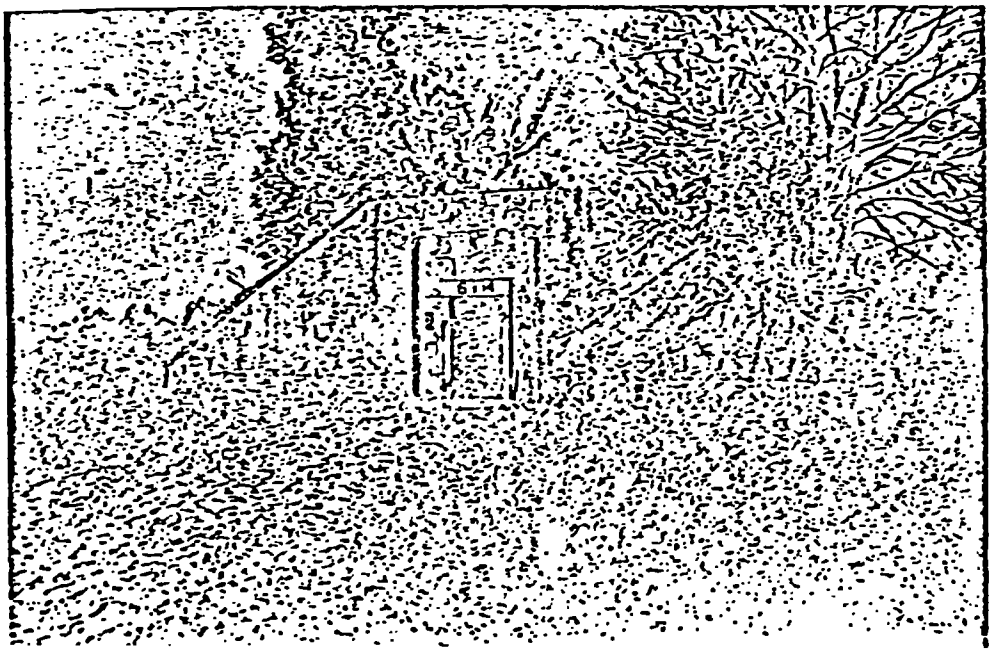


13-3-13
OCT. 31, 1986

13-1-14
OCT. 31, 1986



13-2-14
OCT. 31, 1986



13-6-14
OCT. 31, 1986

ATTACHMENT 2

MANUFACTURING OPERATIONS DESCRIPTION

NOTE: After the Part A application was originally submitted there was correspondence to the Agencies discussing certain manufacturing operations with respect to waste treatment.

These operations are described in this attachment.

The processes, as described, are an integral part of the manufacturing operation, therefore, it is Olin's position that they are not waste treatment operations.

ATTACHMENT 2

1.) DEWATERING HEI MILLINGS IN I-1-12, I-1-23 AND I-1-49

The process involves the manufacturing operation of milling explosive projectiles. High explosive particles are collected in a wet (water) "Hoffman" vacuum cleaner throughout the manufacturing operation. The slurry collected passes through filtration equipment. The water is reused in the milling operation and the filters and filtrate are removed periodically and packaged as explosive hazardous waste for thermal treatment.

2.) DEWATERING/OIL ADDITION TRACE AND API MILLINGS IN I-1-12

The process involves the manufacturing operation of pressing pyrotechnics and explosives into projectiles. Loose explosive particles are collected in a wet (water or oil) vacuum cleaner throughout the manufacturing operation. The filtrate and explosive contaminated oil or water are periodically removed from the vacuum cleaner and packaged as explosive hazardous waste for thermal treatment. Sawdust or wood flour and/or oil may be added to the water filtrate or contaminated water to aid in effective thermal treatment.

3.) DUST FILTERING MIXER OPERATIONS IN D-1-43 AND D-1-44

The process involves the manufacturing operation of blending explosive mixes and collecting the dust which results from the mixing. Explosive dust is collected in a wet (water) vacuum cleaner and periodically the water passes through a filter into a sump. The filtrate and filter are periodically removed and packaged as explosive hazardous waste for thermal treatment.

4.) ADDITION OF OIL IN P-1-1
ADDITION OF OIL AND/OR WATER IN I-1-12
ADDITION OF OIL OR ETHYLENE GLYCOL IN D-1-4, D-1-7, D-1-8, D-1-11, D-1-15 AND D-1-46

The process consists of adding No. 2 fuel oil, water, or ethylene glycol to a discreet amount of specific explosive wastes to properly cushion the explosives for handling and transportation and comply with the Dept. of Defense guidelines and to aid in effective thermal treatment.

ATTACHMENT 2: (CONT'D)

5.) FILTERING HEI/HE MIX IN D-1-11

The process involves the manufacturing operation of pelletizing high explosive mixes. A solvent is used in this operation for collection and removal of high explosive dusts. The contaminated solvent is collected and passed through a filter. The solvent is reused in the manufacturing operation and the filtrate is packaged as an explosive hazardous waste for thermal treatment.

6.) FILTERING EXPLOSIVES IN D-1-46 AND D-1-47

The process involves the manufacturing operation of blending and screening explosives and pyrotechnics. Water is used in this operation for collection and removal of explosive dusts. The contaminated water passes through a filter into a sump. The filtrate and filter are periodically removed and packaged as explosive hazardous waste for thermal treatment.

ATTACHMENT 3:

HAZARDOUS WASTE FACILITY CLOSURE PLAN

ORDILL INDUSTRIAL AREA

SOP 90,356 G

I.D. NO.: IL8143609487

NOTE: Olin requests Agency approval to begin "partial" closure of only buildings P-1-3, 7-1-2, 7-3-3, 6-1-2, 6-1-6 and 6-7-1. Upon completion of partial closure, the closure plan will be revised appropriately.

Please note that Olin had previously included closure for the manufacturing operations as discussed in Attachment 2. They now have been deleted from the closure plan and the costs adjusted appropriately.

HAZARDOUS WASTE FACILITY CLOSURE PLAN

ORDILL INDUSTRIAL AREA

S.O.P. 90,356 REV. G 3/87

INTRODUCTION

This closure plan identifies all steps that will be necessary to provide final closure and partial closure for various waste storage buildings which are located in the Ordill Industrial Area of Crab Orchard Wildlife Refuge in rural Williamson County, Illinois. These facilities are operated by Olin Corporation and are owned by the U.S. Department of the Interior. This Closure Plan includes those requirements per 35 Ill. Adm. Code 725 Subparts G and H. The U.S. EPA I.D. Number for this facility is IL8143609487.

Olin Corporation will maintain an onsite copy of the approved closure plan and all revisions to the plan until the certification of closure completeness has been submitted and accepted by the EPA. Olin will notify the appropriate Agency Administrator at least 180 days prior to the date final closure is expected to begin. The closure date for closure of the facilities will be the date 2015. Partial closure is expected in 1987. Upon completion of closure, Olin will submit to the appropriate Agency Administrator a certification by both the authorized Olin representative and by a local independent registered professional engineer that the facility has been closed or partially closed in accordance with the specifications in the approved closure plan.

OLIN CORPORATION, WINCHESTER GROUP, P.O. BOX 278, MARION, ILLINOIS 62959 - PHONE A.C. 618 [illegible] 8211

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1.0 PURPOSE

The purpose of this Hazardous Waste Management Facility Closure Plan is to:

1.1 Comply with EPA regulations and Olin Corporation policies;

1.2 Comply with the "Closure Performance Standard", i.e. these facilities will be closed in a manner that:

1.2.1 No further maintenance will be required; and

1.2.2 Threats to human health and the environment will be controlled, minimized or eliminated, and

1.3 Provide information, procedures, schedules, and cost estimates concerning closure of this facility.

2.0 SCOPE

This closure plan applies to hazardous waste storage buildings for the Ordill Industrial Area Hazardous Waste Management Facility located in rural Williamson County near Marion, Illinois which is operated by Olin Corporation and owned by the U.S. Dept. of Interior.

3.0 PARTIAL AND FINAL CLOSURE ACTIVITIES

Olin expects to perform final closure for buildings and hazardous waste associated with the waste storage buildings. This closure plan therefore includes the appropriate and required information for proper final closure of buildings 13-1-14, 13-2-14, 13-6-14, 13-3-9, 13-3-10, and 13-3-13.

Partial closure is presently planned for buildings P-1-3, 7-1-2, 7-3-3, 6-1-2, 6-1-6 and 6-7-1.

4.0 FACILITY CONDITIONS

4.1 General Information

The Olin Ordill Industrial Area Hazardous Waste Management Facility consists of several waste storage buildings.

The hazardous waste involved in these storage buildings are typically explosive waste. Therefore, the waste is either ignitable (EPA No. D001) or reactive (EPA No. D003).

4.1 (Cont'd)

The storage buildings are as follows by building number, i.e. P-1-3, 7-1-2, 7-3-3, 6-1-2, 6-1-6, 6-7-1, 13-1-14, 13-2-14, 13-6-14, 13-3-9, 13-3-10, 13-3-13. Presently buildings 13-1-14, 13-2-14, 13-6-14, 13-3-9, 13-3-10 and 13-3-13 only are used for explosive waste storage when necessary. Olin has determined that waste storage in buildings P-1-3, 7-1-2, 7-3-3, 6-1-2, 6-1-6 and 6-7-1 is no longer required.

4.2 Maximum Inventory

The maximum inventory for explosive waste at any given time is 10,000 gallons per "active" storage building or 60,000 gallons total.

4.3 Equipment and Facilities

The active storage buildings are 25 feet by 60 feet each and are military type cement bunkers covered on all sides but one with dirt. The reinforced cement walls are approximately two feet in thickness and the floors consist of poured cement. All waste is stored in approved DOT shipping containers.

5.0 INVENTORY REMOVAL

All explosive waste remaining at the storage buildings will be transported and treated at the Olin thermal treatment facility (ILD000802801).

There are no wastes in storage in buildings P-1-3, 7-1-2, 7-3-3, 6-1-2, 6-1-6 and 6-7-1 requiring inventory removal. Any wastes stored in the past were previously removed appropriately.

6.0 DECONTAMINATION PROCEDURES

Olin employees shall conduct the operations. They are required to wear safety glasses, gloves, and safety shoes. Conductive safety shoes are required in those areas marked as required apparel. Long sleeve flame retardant coveralls shall be worn except at the storage buildings and during pickup, transport, and delivery of waste to the thermal treatment facility.

Once all the explosive waste, if any, is removed from the storage buildings to the thermal treatment facility, the floors shall be swept free from debris, if any. The floors will not require decontamination since all waste was stored previously in approved containers.

7.0 SCHEDULE FOR CLOSURE

Within 90 days after receipt of the final volume of hazardous wastes, or 90 days after approval of the closure plan, if that is later, final closure activities will be initiated. Partial closure will commence within 30 days after approval of the closure plan. Completion of final and/or partial closure will be within 180 days of this occurrence. The closure date for final closure of the facilities will be the date 2015. Partial closure is expected in 1987. The appropriate EPA Administrator will be notified by Olin 180 days before final closure is expected to begin. The proposed schedule for final closure is indicated in Figure 1.

Partial and/or final closure will be inspected and then certified by a registered professional engineer. The engineer will be required to perform at least one inspection for each storage building. Olin personnel will supervise partial and/or final closure and also provide certification upon the completion of partial and/or final closure. Partial closure is planned for buildings P-1-3, 7-1-2, 7-3-3, 6-1-2, 6-1-6, 6-7-1.

8.0 EXTENSION FOR CLOSURE TIME

It is anticipated that Olin Corporation will not require an extension for closure time.

9.0 POST CLOSURE PLANS

Post closure care should not be needed for these treatment operations and storage buildings because they are not disposal facilities.

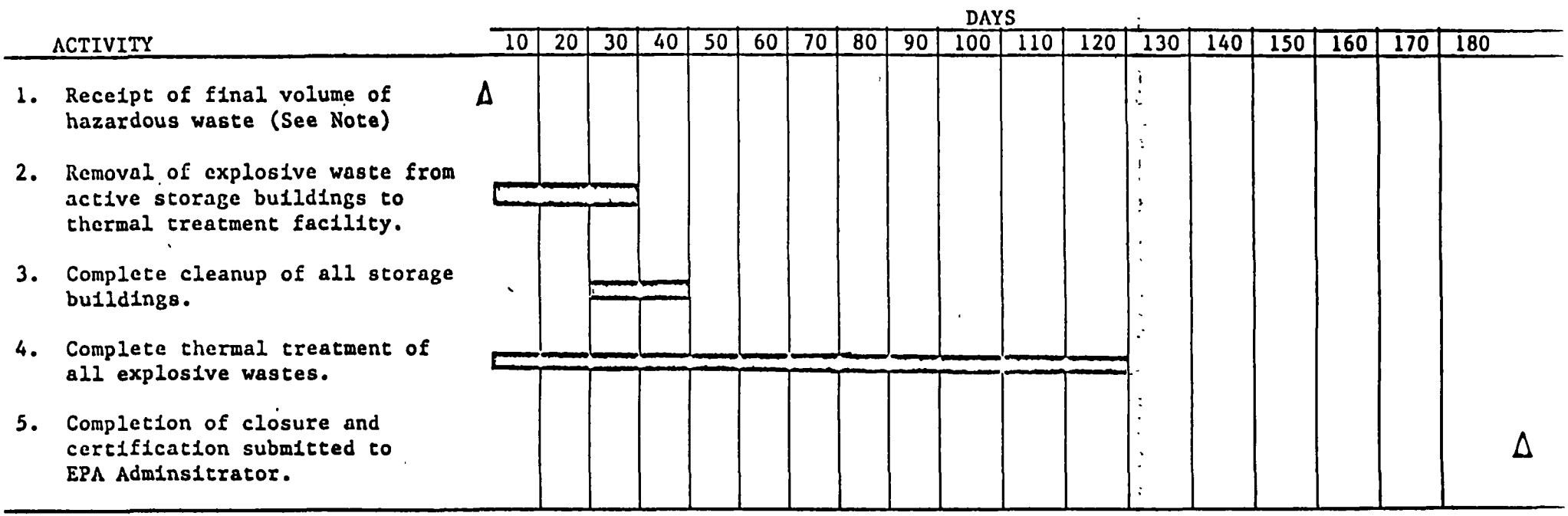
10.0 CLOSURE COST ESTIMATE

The closure cost estimates are presented by activities as indicated on Figure 2 with a total cost estimate provided.

This closure cost estimate will be kept on file at Olin Corporation. It will be revised whenever a change in the closure plan affects the cost of closure. It will be adjusted annually within 30 days of the fiscal year to reflect changes in closure cost brought about by inflation. The Department of Commerce's Annual Implicit Price Deflator for Gross National Product, as published by the U.S. Dept. of Commerce in its monthly publication "Survey of Current Business", will be used to make this adjustment.

Financial demonstration is prepared by Olin's Chemical Group, Environmental Affairs Dept. located at Stamford, CT., for the Corporation.

FIGURE 1: ANTICIPATED FINAL CLOSURE SCHEDULE



(NOTE: OR after approval of the closure plan, if that is later, final closure activities will be initiated.)

FIGURE 2: CLOSURE COST ESTIMATE

	FINAL AND PARTIAL CLOSURE COSTS	PARTIAL CLOSUR COSTS
A. REMOVAL OF EXPLOSIVE WASTE FROM ACTIVE STORAGE BUILDINGS TO THERMAL TREATMENT FACILITY		
a. Laborers (240 manhours @ 7.65/hr)	$ 1836	
b. Overhead @ 120%	2203	
c. Hauling (60 trips @ $30 ea.)	1800	
Subtotal	$ 5839	Subtotal 0
B. COMPLETE CLEANUP OF ALL STORAGE BUILDINGS		
a. Laborers (48 manhours @ 7.65/hr)	$ 367	
b. Overhead @ 120%	440	
c. Cleaning and collection materials	50	
Subtotal	$ 857	Subtotal 0
C. COMPLETE THERMAL TREATMENT OF ALL EXPLOSIVE WASTE		
a. Laborers (960 manhours @ 7.65/hr.)	$ 7344	
b. Overhead @ 120%	8813	
Subtotal	$16157	Subtotal 0
D. CLOSURE CERTIFICATION		
a. Professional Engineer (40 hr. @ $60/hr.)	$ 2400	
b. Report/Certification (1 @ $1000)	1000	
c. Expenses - 1 lot @ $600	600	
Subtotal	$ 4000	Subtotal $200C (included with final closure costs)
E. SUBTOTAL	$26853	
CONTINGENCY @ 25%	6713	
F. TOTAL CLOSURE COST @ 1981 DOLLARS	$33566	

$33566 (1981)
36735 (1982) [1.0944 Index]
38939 (1983) [1.06 Index]
40496 (1984) [1.04 Index]
42116 (1985) [1.04 Index]
43506 (1986) [1.033 Index]
44811 (1987) [1.03 Index]

001043

OLIN CORPORATION

PREPARER SIGNATURE: J Schneiderman DATE: 6/24/85
J. Schneiderman
Regulatory Compliance Supervisor
Ordnance Products

APPROVAL SIGNATURE: A. Heinz, Jr. DATE: 6/27/85
A. Heinz, Jr.,
Director
Ordnance Products

Olin
ORDNANCE

MARION OPERATIONS

17 February 1988

Illinois Environmental Protection Agency
Division of Land Pollution Control--#24
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276

ATTENTION: Mr. Lawrence W. Eastep, P.E., Manager
Permit Section

REGARDING: Olin Corporation IL8143609487
199862013--Williamson County
RCRA "Partial" Closure - Completion
IEPA Correspondence 25 September 1987
Olin Correspondence 2 October 1987 and 23 July 1987

Dear Mr. Eastep:

Olin Corporation completed the partial closure activities by 23 December 1987 in accordance with the approved closure plan and requirements as outlined in the Agency's correspondence dated 25 September 1987. Enclosed herewith are the following:

Attachment 1: Closure Certification
Attachment 2: Closure Documentation Report
Attachment 3: Modified Part A
Attachment 4: Revised Closure Cost Estimate and Financial Assurance Instrument

Closure activities were completed for six (6) storage areas, buildings 7-1-7-3-3, P-1-3, 6-1-2, 6-1-6, and 6-7-1 as presented in the closure documentation report and certified thereof. Six (6) storage areas, buildings 13-1-14, 13-2-4, 13-3-9, 13-3-10, 13-3-13, and 13-6-14 remain as active storage areas and were not closed.

If further information or clarification is required, please contact Jean Schneiderman or me.

Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AHJ/kc

CC: USEPA Region V
Arlene Kaganove
William E. Muno

OLIN CORPORATION - MARION, IL.
USEPA I.D. #IL8143609487
IEPA I.D. #199862013
RCRA PARTIAL CLOSURE
STORAGE AREAS: 7-1-2
7-3-3
P-1-3
6-1-2
6-1-6
6-7-1

ATTACHMENTS

1. CLOSURE CERTIFICATION

2. CLOSURE DOCUMENTATION REPORT

3. MODIFIED PART A

4. REVISED CLOSURE COST ESTIMATE AND FINANCIAL ASSURANCE INSTRUMENT

ATTACHMENT 1

CLOSURE CERTIFICATION

ATTACHMENT

This statement is to be completed by both the responsible officer and by the registered professional engineer upon completion of closure. Submit one copy of the certification with original signatures and three additional copies.

Closure Certification Statement

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

IL8143609487 USEPA ID Number	OLIN CORPORATION Facility Name
Signature of Owner/Operator	ARTHUR HEINZ, JR., DIRECTOR Name and Title
Howard E Hesketh, PE Signature of Registered P.E.	HOWARD E. HESKETH, P.E. ILLINOIS 062-027854 Name of Registered P.E. and Registration Number
22 December 1987 Date	

CJL:rd3695g/71

001254

ATTACHMENT 2

CLOSURE DOCUMENTATION REPORT

CLOSURE DOCUMENTATION REPORT

a) Volume of waste and waste residue removed

Bldg.	Waste	Volume Removed	Other Info.
7-1-2	Washwater	29 gallons	
	Debris	14 gallons	Mopheads, solids
7-3-3	Nonapplicable	0 gallons	Note: This building was never utilized for waste storage.
P-1-3	Washwater	9 gallons	
	Debris	7 gallons	Mopheads
6-1-2	Washwater	14 gallons	
	Debris	7 gallons	Mopheads
6-1-6	Washwater	13 gallons	
	Debris	14 gallons	Mopheads, solids
6-7-1	Washwater	23 gallons	
	Debris	14 gallons	Mopheads

b) Description of the method of waste handling and transport

All waste was collected in containers at the respective buildings. The containers were loaded onto the transport vehicle at each building. The transport vehicle was a closed van.

c) Waste Manifest numbers

Bldg.	Manifest No.
7-1-2	IL1938622
P-1-3	IL1938621
6-1-2, 6-1-6, 6-7-1	IL1938623

d) Copies of the waste manifests

Copies of the completed waste manifests are enclosed as follows.

0001256

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator's US EPA ID No. IL 8 1 4 3 6 0 9 4 8 7 | Manifest Doc No. 8 7 3 9 2 | 2 Page 1 of 1 | Information in the shaded areas is required by Federal law but is not required by Illinois law

3. Generator's Name and Mailing Address
OLIN CORPORATION (7-1-2)
P. O. BOX 278
MARION, IL 62959

4. Generator's Phone (618) 985-8211

A. Illinois Manifest Document Number: IL 1938622

B. Illinois Generator's ID: 1 1 9 8 6 2 0 0 1

5. Transporter 1 Company Name: MR. FRANK INDUSTRIAL DISPOSAL

6. US EPA ID Number: I L D 0 6 9 5 0 6 1 6 0

C. Illinois Transporter's ID: 0 0 1

D. (312 596-3377 Transporter's Phone

7. Transporter 2 Company Name

8. US EPA ID Number

E. Illinois Transporter's ID.

F. ( ) Transporter's Phone

9. Designated Facility Name and Site Address
CHEM-CLEAR, INC.
11800 S. STONEY ISLAND AVE.
CHICAGO, IL 60617

10. US EPA ID Number: I L D 0 0 0 6 0 8 4 7 1

G. Illinois Facility's ID: 0 3 1 6 0 0 0 0 1

H. Facility's Phone (312) 646-6202

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NONHAZARDOUS WASTE LIQUID APPROX 29 AND 14 GALLONS EA 7-1-2 WASHWATER/DEBRIS GROSS 460#	0 0 2	D N	0 0 1 1 0	1	EPA HW Number XX Authorization Num 0 0 0 0
b.					EPA HW Number XX Authorization Num
c.					EPA HW Number XX Authorization Num
d.					EPA HW Number XX Authorization Num

J. Additional Descriptions for Materials Listed Above
CU # 4751

K. Handling Codes for Wastes Listed Above In Item # 14
1 = Gallons 2 = Cubic Yard

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: HERBERT BAINES | Signature: Herbert Baines | Date: Month Day 12 21 8

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: CARL E. MILBURN HERBERT BAINES | Signature: Carl E. Milburn | Date: Month Day 12 21 8

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name: Mark E. Douglas | Signature: Mark E. Douglas | Date: Month Day 12 22

IN ILLINOIS: 217 / 782-3637 *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS* OUTSIDE ILLINOIS: 800 / 424-8802 or 202 / 426-2675

DISTRIBUTION: PART - 1 GENERATOR PART - 2 IEPA PART - 3 FACILITY PART - 4 TRANSPORTER PART - 5 IEPA PART - 6 GENERATOR

REV 7 GENERATOR COPY — PART 1-DO NOT REMOVE PART 1 FROM SET UNTIL COMPLETED.

This Agency is authorized to require this manifest by Illinois Revised Statutes Chapter 111½ Section 21. Failure to obtain the signature of the Agency, failure to provide the signature of any transporter, or failure to submit a copy of this manifest to the Agency may result in a civil penalty not to exceed $25,000 per day of violation. Failure to submit this manifest may result in a civil penalty not to exceed $50,000 per day of violation and imprisonment not to exceed 5 years. This form has been approved by the Environmental Protection Agency.

001257

UNIFORM [redacted] WASTE MANIFEST

1. Generator's US EPA ID No. IL814360948 7 | Manifest Document No. 87391 | 2. Page 1 of 1 | Information in the shaded areas required by Federal law but is required by Illinois law

3. Generator's Name and Mailing Address
OLIN CORPORATION (P-1-3)
P. O. BOX 278
MARION, IL 62959

4. Generator's Phone (618)985-8211

A. Illinois Manifest Document Number: IL 1938621

B. Illinois Generator's ID: 1 9 9 8 6 2 0 0

5. Transporter 1 Company Name: MR. FRANK INDUSTRIAL DISPOSAL

6. US EPA ID Number: ILD069506160

C. Illinois Transporter's ID: 0 0

D. (312) 596-3377 Transporter's Ph

7. Transporter 2 Company Name

8. US EPA ID Number

E. Illinois Transporter's ID

F. ( ) Transporter's Ph

9. Designated Facility Name and Site Address
CHEM-CLEAR, INC.
11800 S. STONEY ISLAND AVE.
CHICAGO, IL 60617

10. US EPA ID Number: ILD000608471

G. Illinois Facility's ID: 0 3 1 6 0 0 0 0

H. Facility's Phone: (312) 646-6202

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NONHAZARDOUS WASTE LIQUID APPROX 16 GALLONS P-1-3 WASHWATER GROSS 195#	0 0 2	D M	0 0 0 6 2	1	EPA HW Num XX Authorization No. 0 0 0 0
b.					EPA HW Num XX Authorization No.
c.					EPA HW Num XX Authorization No.
d.					EPA HW Num XX Authorization No.

J. Additional Descriptions for Materials Listed Above
Ch # 4750

K. Handling Codes for Wastes Listed Above In Item # 14
1 = Gallons 2 = Cubic Yar

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to b economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present ar future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and selec the best waste management method that is available to me and that I can afford.

Printed/Typed Name: HERBERT BAINES | Signature: Herbert B Baines | Date Month Day: 12 21 8

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: CARL E MILBURN HERBERT BAINES | Signature: Carl E. Milburn | Date Month Day: 12 21

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date Month Day

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name: Mark E. Douglas | Signature: Mark C Douglas | Date Month Day: 12 22

IN ILLINOIS 217 / 782-3637 "24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS" OUTSIDE ILLINOIS 800 / 424-8802 or 202 / 426-2

DISTRIBUTION PART - 1 GENERATOR PART - 2 IEPA PART - 3 FACILITY PART - 4 TRANSPORTER PART - 5 IEPA PART - 6 GENERATOR

REV 7 GENERATOR COPY — PART 1-DO NOT REMOVE PART 1 FROM SET UNTIL COMPLETED.

This Agency is authorized to require pursuant to Illinois Revised Statutes, Chapter 111½, Section 21, that this information be submitted to the Agency. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

001258

UNIFORM WASTE MANIFEST

1. Generator's US EPA ID No. I L 8 1 4 3 6 0 9 4 8 7 | Manifest Document No. 8 7 3 9 3 | 2. Page 1 of 1 | Information in the shaded areas is required by Federal law, but is required by Illinois law

3. Generator's Name and Mailing Address
OLIN CORPORATION (AREA 6)
P. O. BOX 278
MARION, IL 62959

4. Generator's Phone (618) 985-8211

A. Illinois Manifest Document Number: IL 1938623

B. Illinois Generator's ID: 1 9 9 8 6 2 0 0

5. Transporter 1 Company Name: MR. FRANK INDUSTRIAL DISPOSAL

6. US EPA ID Number: I L D 0 6 9 5 0 6 1 6 0

C. Illinois Transporter's ID: 0 0

D. (312) 596-3377 Transporter's Phone

7. Transporter 2 Company Name:

8. US EPA ID Number:

E. Illinois Transporter's ID:

F. ( ) Transporter's Phone

9. Designated Facility Name and Site Address
CHEM-CLEAR, INC.
11800 S. STONEY ISLAND AVE.
CHICAGO, IL 60617

10. US EPA ID Number: I L D 0 0 0 6 0 8 4 7 1

G. Illinois Facility's ID: 0 3 1 6 0 0 0 0

H. Facility's Phone: (312) 646-6202

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NONHAZARDOUS WASTE LIQUID APPROX37 GALLONS 6-7-1 WASHWATER GROSS 430#	0 0 2	D M	0 0 1 1 0	1	EPA HW Number: XX; Authorization Number: 0 0 0 0
b. NONHAZARDOUS WASTE LIQUID APPROX 21 GALLONS 6-1-2 WASHWATER GROSS 240#	0 0 2	D M	0 0 0 6 2	1	EPA HW Number: XX; Authorization Number: 0 0 0 0
c. NONHAZARDOUS WASTE LIQUID APPROX 13 AND 14 GALLONS EA 6-1-6 WASHWATER/DEBRIS GROSS 330#	0 0 2	D M	0 0 1 1 0	1	EPA HW Number: XX; Authorization Number: 0 0 0 0
d.					EPA HW Number: XX; Authorization Number:

J. Additional Descriptions for Materials Listed Above
11A - Cli #4752
B - 4754
C - 4755

K. Handling Codes for Wastes Listed Above In Item # 14
1 = Gallons 2 = Cubic Yard

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: HERBERT BAINES | Signature: Herbert Baines | Date Month Day: 12 2 18

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: CARL E. MILBURN ~~HERBERT BAINES~~ | Signature: Carl E. Milburn | Date Month Day: 12 2 18

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: | Signature: | Date Month Day:

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name: Mark E. Douglas | Signature: Mark E. Douglas | Date Month Day: 12 22

IN ILLINOIS 217 / 782-3637 "24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS" OUTSIDE ILLINOIS 800 / 424-8802 or 202 / 426-2

DISTRIBUTION PART - 1 GENERATOR PART - 2 IEPA PART - 3 FACILITY PART - 4 TRANSPORTER PART - 5 IEPA PART - 6 GENERATOR

GENERATOR COPY — PART 1-DO NOT REMOVE PART 1 FROM SET UNTIL COMPLETED.

001259 001[illegible]

e) Description of the sampling and analytical methods used

All liquid samples were taken with a colisowa in order to obtain a representative sample. There were two samples, 6-1-6 and 7-1-2 debris, that were solids and a grab sample was taken for analysis.

Samples were taken of the final rinse water at each building and were submitted to ARDL for analysis. Waste washwater and debris samples were submitted to Chem Clear for analysis and waste acceptance approval. The analysis reports are as enclosed.

ARDL ANALYSIS RESULTS

FINAL RINSE WATER

ARDL Sample Number	Customer Number	Sample I.D.
01	OP 87-26	6-1-2 Rinse water
02	OP 87-27	6-1-6 Rinse water
03	OP 87-28	6-7-1 Rinse water
04	OP 87-29	7-1-2 Rinse water
05	OP 87-30	P-1-3 Rinse water

LABORATORY REPORT

ARDL, Inc.
Applied Research and Development Laboratory

ARDL Number - 106183 Date - 12/11/87

Customer - Olin Corporation
P. O. Drawer 6
Marion, IL 62959
Attention - J. Schneiderman
Collected by - Customer

Type Sample - Water
Date Received - 12/08/87
Hour Received - 1130
Sampling Point - n/a
Date - 12/04/87 Hour - n/a

ARDL Sample Number - 01 Customer Number - OP87-26

Parameter	Results
Flash Point	>200 F
Nitrate	<0.09 mg/l
Oil and Grease, Freon Extractable	6.5 mg/l

End of Report for Sample 01, Page 1 of 5 pages for Invoice 106183

Respectfully submitted: Kenneth Lee
Kenneth Lee
Manager, Analytical Services

P.O.Box 1565 1801 Forest • Mt.Vernon, Illinois 62864 (618)244-3235
"Test everything. Keep the good." 1 Thes. 5:21

001266

LABORATORY REPORT

ARDL, Inc.
Applied Research and Development Laboratory

ARDL Number - 106183 | Date - 12/11/87

Customer - Olin Corporation
P. O. Drawer G
Marion, IL 62959
Attention - J. Schneiderman
Collected by - Customer

Type Sample - Water
Date Received - 12/08/87
Hour Received - 1130
Sampling Point - n/a
Date - 12/04/87 Hour - n/a

ARDL Sample Number - 02 | Customer Number - OP87-27

Parameter	Results
Flash Point	>200 F
Nitrate	<0.09 mg/l
Oil and Grease, Freon Extractable	5.5 mg/l

End of Report for Sample 02, Page 2 of 5 pages for Invoice 106183

Respectfully submitted: Kenneth Lee
Kenneth Lee
Manager, Analytical Services

P.O.Box 1546 1801 Forest Mt.Vernon, Illinois 62864 (618)244-3235
"Test everything. Keep the good." 1 Thes. 5:21

001263

LABORATORY REPORT

ARDL, Inc.
Applied Research and Development Laboratory

ARDL Number - 106183

Date - 12/11/87

Customer - Olin Corporation
P. O. Drawer 6
Marion, IL 62959
Attention - J. Schneiderman
Collected by - Customer

Type Sample - Water
Date Received - 12/08/87
Hour Received - 1130
Sampling Point - n/a
Date - 12/04/87 Hour - n/a

ARDL Sample Number - 03

Customer Number - OP87-28

Parameter	Results
Flash Point	>200 F
Nitrate	<0.09 mg/l
Oil and Grease, Freon Extractable	5.5 mg/l

End of Report for Sample 03, Page 3 of 5 pages for Invoice 106183

Respectfully submitted: Kenneth Lee

Kenneth Lee
Manager, Analytical Service

LABORATORY REPORT

ARDL, Inc.
Applied Research and Development Laboratory

ARDL Number - 106183 Date - 12/11/87

Customer - Olin Corporation
P. O. Drawer G
Marion, IL 62959
Attention - J. Schneiderman
Collected by - Customer

Type Sample - Water
Date Received - 12/08/87
Hour Received - 1130
Sampling Point - n/a
Date - 12/04/87 Hour - n/a

ARDL Sample Number - 04 Customer Number - OP87-29

Parameter	Results
Total Chrome	0.27 mg/l

End of Report for Sample 04, Page 4 of 5 pages for Invoice 106183

Respectfully submitted: Kenneth Lee

Kenneth Lee
Manager, Analytical Services

LABORATORY REPORT

ARDL, Inc.
Applied Research and Development Laboratory

ARDL Number - 106183

Date - 12/11/87

Customer - Olin Corporation
P. O. Drawer 6
Marion, IL 62959
Attention - J. Schneiderman
Collected by - Customer

Type Sample - Water
Date Received - 12/08/87
Hour Received - 1130
Sampling Point - n/a
Date - 12/04/87 Hour - n/a

ARDL Sample Number - 05

Customer Number - OP87-30

Parameter	Results
Barium	1.1 mg/l
Lead	1.2 mg/l

End of Report for Sample 05, Page 5 of 5 pages for Invoice 106183

Respectfully submitted: Kenneth Lee

Kenneth Lee
Manager, Analytical Services

P.O.Box 1566 1801 Forest Mt.Vernon, Illinois 62864 (618)244-0335

"Test everything. Keep the good." 1 Thes. 5:21

001266

CHEM CLEAR ANALYSIS RESULTS

WASHWATER AND DEBRIS

CHI #	SAMPLE I.D.	CORRESPONDING MANIFEST #
4750	P-1-3 washwater/debris, i.e. mopheads	IL1938621 (11 a.)
4751	7-1-2 washwater	IL1938622 (11 a.)
4752	6-7-1 washwater/debris, i.e. mopheads	IL1938623 (11 a.)
4753	6-1-6 washwater	IL1938623 (11 c.)
4754	6-1-2 washwater/debris, i.e. mopheads	IL1938623 (11 b.)
4755	6-1-6 debris, i.e. mopheads, solids	IL1938623 (11 c.)
4756	7-1-2 debris, i.e. mopheads, solids	IL1938622 (11 a.)

CHEM-CLEAR®

Form No LAS 11/87

11800 S. Stony Island Avenue
Chicago, Illinois 60617
(312) 646-6202

CHI # 4750

PERMIT # 000076

California List

HAZARD CODE non

WASTE SOURCE
WASTE GENERATOR Olin Corp.
WASTE DESCRIPTION P-1-3 wash water
RECEIPT DATE 12-9-87 VOLUME 2 drums

WASTE CHARACTERISTICS

COLOR/APPEARANCE	Brown Cloudy	WATER MISCIBILITY	+
% FLOATER	-	% OIL ON ACIDIFICATION	-
% FREE OIL	-		

TEST	As Rec	LEACH	TEST	As Rec.	LEACH.
pH	7.8		Ag, ppm	0.6	
% TOTAL SOLIDS	1.26		As, ppm	0.1	
% DISSOLVED SOLIDS			Ba, ppm	4.4	
% SUSPENDED SOLIDS	0.89		Cd, ppm	0.4	
% SETTLEABLE SOLIDS			Cr, ppm	2.9	
FLASH POINT °F			Cr (Hex), ppm	ND	
OIL AND GREASE, ppm	2960		Cu, ppm	3.6	
PHENOLS, ppm	<1.0		Hg, ppb	<4.0	
CHLORIDE, ppm			Ni, ppm	1.2	
BROMIDE, ppm			Pb, ppm	4.76	
PHOSPHATE, ppm (TOTAL)			Se, ppm	<0.1	
COD, ppm	20800.		Zn, ppm	40.	
BOD, ppm			Fe, ppm	480.	
ACIDITY mg/1 as $CaCo_3$					
ALKALINITY, mg/1 as $CaCo_3$					
CYANIDE, ppm (TOTAL)	<1.0		TOX, ppm		
CYANIDE, ppm (RELEASE)			HOC, ppm		
SULFIDE, ppm (TOTAL)			TOV, ppm		
SULFIDE, ppm (RELEASE)	<10				

COMMENTS THIS REPORT HAS BEEN PREPARED FOR THE EXCLUSIVE USE AND BENEFIT OF CHEM-CLEAR, INC. NO REPRESENTATION CONCERNING SAMPLE VALIDITY OR ANALYTICAL COMPLETENESS IS HEREBY MADE TO ANY OTHER PERSON RECEIVING THIS REPORT.

001268

CHEM-CLEAR®

Form No. LAS 11/1

11800 S. Stony Island Avenue
Chicago, Illinois 60617
(312) 646-6202

CHI # 4751

PERMIT # 000076

California List

HAZARD CODE non

WASTE SOURCE
WASTE GENERATOR Olin Corp
WASTE DESCRIPTION 7-1-2 wash water
RECEIPT DATE 12-9-87 VOLUME 1 drum

WASTE CHARACTERISTICS

COLOR/APPEARANCE Brown Cloudy
WATER MISCIBILITY +
% FLOATER -
% OIL ON ACIDIFICATION -
% FREE OIL -

TEST	As Rec	LEACH	TEST	As Rec	LEACH
pH	7.8		Ag, ppm	<0.1	
% TOTAL SOLIDS	0.40		As, ppm	0.4	
% DISSOLVED SOLIDS			Ba, ppm	1.4	
% SUSPENDED SOLIDS	0.13		Cd, ppm	0.1	
% SETTLEABLE SOLIDS			Cr, ppm	0.5	
FLASH POINT °F			Cr (Hex), ppm	ND	
OIL AND GREASE, ppm	1256		Cu, ppm	0.5	
PHENOLS, ppm	1.5		Hg, ppb	<4.0	
CHLORIDE, ppm			Ni, ppm	0.3	
BROMIDE, ppm			Pb, ppm	3.6	
PHOSPHATE, ppm (TOTAL)			Se, ppm	<0.1	
COD, ppm	7200		Zn, ppm	7.2	
BOD, ppm			Fe, ppm	80.0	
ACIDITY mg/1 as $CaCo_3$					
ALKALINITY, mg/1 as $CaCo_3$					
CYANIDE, ppm (TOTAL)	1.2		TOX, ppm		
CYANIDE, ppm (RELEASE)			HOC, ppm		
SULFIDE, ppm (TOTAL)			TOV, ppm		
SULFIDE, ppm (RELEASE)	<10				

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001269

CHEM-CLEAR®

Form No LAS 117

11800 S. Stony Island Avenue
Chicago, Illinois 60617
(312) 646-6202

CHI # 4752

PERMIT # 000076

California List

HAZARD CODE non

WASTE SOURCE
WASTE GENERATOR Olin Corp
WASTE DESCRIPTION 6-7-1 wash water
RECEIPT DATE 12-9-87 VOLUME 2 drums

WASTE CHARACTERISTICS

COLOR/APPEARANCE Brown Liquid
WATER MISCIBILITY +
% FLOATER -
% OIL ON ACIDIFICATION -
% FREE OIL -

TEST	As Rec.	LEACH	TEST	As Rec.	LEACH
pH	9.5		Ag, ppm	0.1	
% TOTAL SOLIDS	1.32		As, ppm	0.4	
% DISSOLVED SOLIDS			Ba, ppm	0.2	
% SUSPENDED SOLIDS	0.73		Cd, ppm	0.1	
% SETTLEABLE SOLIDS			Cr, ppm	0.6	
FLASH POINT °F			Cr (Hex), ppm	ND	
OIL AND GREASE, ppm			Cu, ppm	1.1	
PHENOLS, ppm	<1.0		Hg, ppb	<4.0	
CHLORIDE, ppm			Ni, ppm	0.3	
BROMIDE, ppm			Pb, ppm	1.98	
PHOSPHATE, ppm (TOTAL)			Se, ppm	<0.1	
COD, ppm	20,800.		Zn, ppm	6.8	
BOD, ppm			Fe, ppm	60.	
ACIDITY mg/l as $CaCo_3$					
ALKALINITY, mg/l as $CaCo_3$					
CYANIDE, ppm (TOTAL)	<1.0		TOX, ppm		
CYANIDE, ppm (RELEASE)			HOC, ppm		
SULFIDE, ppm (TOTAL)			TOV, ppm		
SULFIDE, ppm (RELEASE)	<10				

COMMENTS THIS REPORT HAS BEEN PREPARED FOR THE EXCLUSIVE USE AND BENEFIT OF CHEM-CLEAR, INC. NO REPRESENTATION CONCERNING SAMPLE VALIDITY OR ANALYTICAL COMPLETENESS IS HEREBY MADE TO ANY OTHER PERSON RECEIVING THIS REPORT.

001270

CHEM-CLEAR®

Form No. LAS 114

11800 S. Stony Island Avenue
Chicago, Illinois 60617
(312) 646-6202

CHI # 4753

PERMIT # 000076 California List

HAZARD CODE non

WASTE SOURCE
WASTE GENERATOR Olin Corp.
WASTE DESCRIPTION 6-1-6 wash water
RECEIPT DATE 12-9-87 VOLUME 1 dr

WASTE CHARACTERISTICS

COLOR/APPEARANCE Brown Cloudy WATER MISCIBILITY +
% FLOATER - % OIL ON ACIDIFICATION -
% FREE OIL -

TEST	As Rec	LEACH.	TEST	As Rec.	LEACH.
pH	9.8		Ag, ppm	0.1	
% TOTAL SOLIDS	1.33		As, ppm	0.1	
% DISSOLVED SOLIDS			Ba, ppm	1.3	
% SUSPENDED SOLIDS	1.48		Cd, ppm	0.1	
% SETTLEABLE SOLIDS			Cr, ppm	0.6	
FLASH POINT °F			Cr (Hex), ppm	ND	
OIL AND GREASE, ppm			Cu, ppm	1.4	
PHENOLS, ppm	1.5		Hg, ppb	<4.0	
CHLORIDE, ppm			Ni, ppm	0.5	
BROMIDE, ppm			Pb, ppm	3.19	
PHOSPHATE, ppm (TOTAL)			Se, ppm	<0.1	
COD, ppm	12,000.		Zn, ppm	48.	
BOD, ppm			Fe, ppm	160.	
ACIDITY mg/l as $CaCo_3$					
ALKALINITY, mg/l as $CaCo_3$					
CYANIDE, ppm (TOTAL)	<1.0		TOX, ppm		
CYANIDE, ppm (RELEASE)			HOC, ppm		
SULFIDE, ppm (TOTAL)			TOV, ppm		
SULFIDE, ppm (RELEASE)	<10				

COMMENTS THIS REPORT HAS BEEN PREPARED FOR THE EXCLUSIVE USE AND BENEFIT OF CHEM-CLEAR, INC. NO REPRESENTATION CONCERNING SAMPLE VALIDITY OR ANALYTICAL COMPLETENESS IS HEREBY MADE TO ANY OTHER PERSON RECEIVING THIS REPORT.

CHEM-CLEAR®

Form No LAS 11/8

11800 S. Stony Island Avenue
Chicago, Illinois 60617
(312) 646-6202

CHI # 4754

PERMIT # 000076 California List

HAZARD CODE non

WASTE SOURCE
WASTE GENERATOR Olin Corp.
WASTE DESCRIPTION 6-1-2 wash water
RECEIPT DATE 12-9-87 VOLUME

WASTE CHARACTERISTICS

COLOR/APPEARANCE Brown Cloudy WATER MISCIBILITY +
% FLOATER - % OIL ON ACIDIFICATION -
% FREE OIL -

TEST	As Rec	LEACH.	TEST	As Rec.	LEACH.
pH	8.4		Ag, ppm	0.1	
% TOTAL SOLIDS	1.80		As, ppm	0.1	
% DISSOLVED SOLIDS			Ba, ppm	0.1	
% SUSPENDED SOLIDS	1.48		Cd, ppm	0.1	
% SETTLEABLE SOLIDS			Cr, ppm	0.4	
FLASH POINT °F			Cr (Hex), ppm		
OIL AND GREASE, ppm			Cu, ppm	1.8	
PHENOLS, ppm	<1.0		Hg, ppb	<4.0	
CHLORIDE, ppm			Ni, ppm	0.4	
BROMIDE, ppm			Pb, ppm	2.61	
PHOSPHATE, ppm (TOTAL)			Se, ppm	<0.1	
COD, ppm	20,800.		Zn, ppm	24.	
BOD, ppm			Fe, ppm	80.	
ACIDITY mg/l as $CaCo_3$					
ALKALINITY, mg/l as $CaCo_3$					
CYANIDE, ppm (TOTAL)	<1.0		TOX, ppm		
CYANIDE, ppm (RELEASE)			HOC, ppm		
SULFIDE, ppm (TOTAL)			TOV, ppm		
SULFIDE, ppm (RELEASE)	<10				

COMMENTS THIS REPORT HAS BEEN PREPARED FOR THE EXCLUSIVE USE AND BENEFIT OF CHEM-CLEAR, INC. NO REPRESENTATION CONCERNING SAMPLE VALIDITY OR ANALYTICAL COMPLETENESS IS HEREBY MADE TO ANY OTHER PERSON RECEIVING THIS REPORT.

CHEM-CLEAR®

Form No LAS 11/

11800 S. Stony Island Avenue
Chicago, Illinois 60617
(312) 646-6202

CHI # 4755

PERMIT # 000076 California List

HAZARD CODE non

WASTE SOURCE
WASTE GENERATOR Olin Corp.
WASTE DESCRIPTION 6-1-6 Debris
RECEIPT DATE 12-9-87 VOLUME 1 dr

WASTE CHARACTERISTICS

COLOR/APPEARANCE Torn paper/brown WATER MISCIBILITY
% FLOATER - % OIL ON ACIDIFICATION -
% FREE OIL -

TEST	As Rec.	LEACH.	TEST	As Rec.	LEACH.
pH	7.0		Ag, ppm	0.1	
% TOTAL SOLIDS	84.5%		As, ppm	<0.1	
% DISSOLVED SOLIDS			Ba, ppm	2.8	
% SUSPENDED SOLIDS			Cd, ppm	0.1	
% SETTLEABLE SOLIDS			Cr, ppm	0.08	
FLASH POINT °F			Cr (Hex), ppm	ND	
OIL AND GREASE, ppm	3181		Cu, ppm	0.72	
PHENOLS, ppm	<1.0		Hg, ppb	<4.0	
CHLORIDE, ppm			Ni, ppm	0.06	
BROMIDE, ppm			Pb, ppm	0.72	
PHOSPHATE, ppm (TOTAL)			Se, ppm	<0.1	
COD, ppm			Zn, ppm	3.36	
BOD, ppm			Fe, ppm	24.0	
ACIDITY mg/l as $CaCo_3$					
ALKALINITY, mg/l as $CaCo_3$					
CYANIDE, ppm (TOTAL)	16.7		TOX, ppm		
CYANIDE, ppm (RELEASE)			HOC, ppm		
SULFIDE, ppm (TOTAL)			TOV, ppm		
SULFIDE, ppm (RELEASE)	<10		-	-	

COMMENTS THIS REPORT HAS BEEN PREPARED FOR THE EXCLUSIVE USE AND BENEFIT OF CHEM-CLEAR, INC. NO REPRESENTATION CONCERNING SAMPLE VALIDITY OR ANALYTICAL COMPLETENESS IS HEREBY MADE TO ANY OTHER PERSON RECEIVING THIS REPORT.

CHEM-CLEAR®

Form No. LAS 11/1

11800 S. Stony Island Avenue
Chicago, Illinois 60617
(312) 646-6202

CHI # 4756

PERMIT # 000076

California List

HAZARD CODE non

WASTE SOURCE
WASTE GENERATOR Olin Corp.
WASTE DESCRIPTION 7-1-2 wash debris
RECEIPT DATE 12-9-87 VOLUME 1 dr

WASTE CHARACTERISTICS

COLOR/APPEARANCE black dirt w/ stones
WATER MISCIBILITY +
% FLOATER -
% OIL ON ACIDIFICATION -
% FREE OIL -

TEST	As Rec	LEACH	TEST	As Rec	LEACH
pH	7.0		Ag, ppm	0.03	
% TOTAL SOLIDS	97.6%		As, ppm	<0.1	
% DISSOLVED SOLIDS			Ba, ppm	25.0	
% SUSPENDED SOLIDS			Cd, ppm	0.08	
% SETTLEABLE SOLIDS			Cr, ppm	1.33	
FLASH POINT °F			Cr (Hex), ppm		
OIL AND GREASE, ppm	100,661.		Cu, ppm	1.16	
PHENOLS, ppm			Hg, ppb	<4.0	
CHLORIDE, ppm			Ni, ppm	0.29	
BROMIDE, ppm			Pb, ppm	11.9	
PHOSPHATE, ppm (TOTAL)			Se, ppm	<0.1	
COD, ppm			Zn, ppm	9.0	
BOD, ppm			Fe, ppm	266.7	
ACIDITY mg/1 as $CaCo_3$					
ALKALINITY, mg/1 as $CaCo_3$					
CYANIDE, ppm (TOTAL)	<1.0		TOX, ppm		
CYANIDE, ppm (RELEASE)			HOC, ppm		
SULFIDE, ppm (TOTAL)			TOV, ppm		
SULFIDE, ppm (RELEASE)	<10				

COMMENTS THIS REPORT HAS BEEN PREPARED FOR THE EXCLUSIVE USE AND BENEFIT OF CHEM-CLEAR, INC. NO REPRESENTATION CONCERNING SAMPLE VALIDITY OR ANALYTICAL COMPLETENESS IS HEREBY MADE TO ANY OTHER PERSON RECEIVING THIS REPORT.

f) Chronological summary of closure activities and the cost involved

A. Chronological summary of closure activities

	Activity	Dates
1.	Initial inspection by Professional Engineer	11-19-87
2.	Complete cleanup of storage buildings	
	6-7-1	11-30-87/12-4-87
	6-1-2	12-1-87/12-4-87
	6-1-6	12-1-87/12-4-87
	7-1-2	12-2-87/12-4-87
	P-1-3	12-4-87
	Mailed samples to ARDL & Chem Clear	12-7-87
3.	Shipped all waste and waste residue to Chem Clear	12-21-87
4.	Final inspection by Professional Engineer	12-22-87

B. Closure costs involved

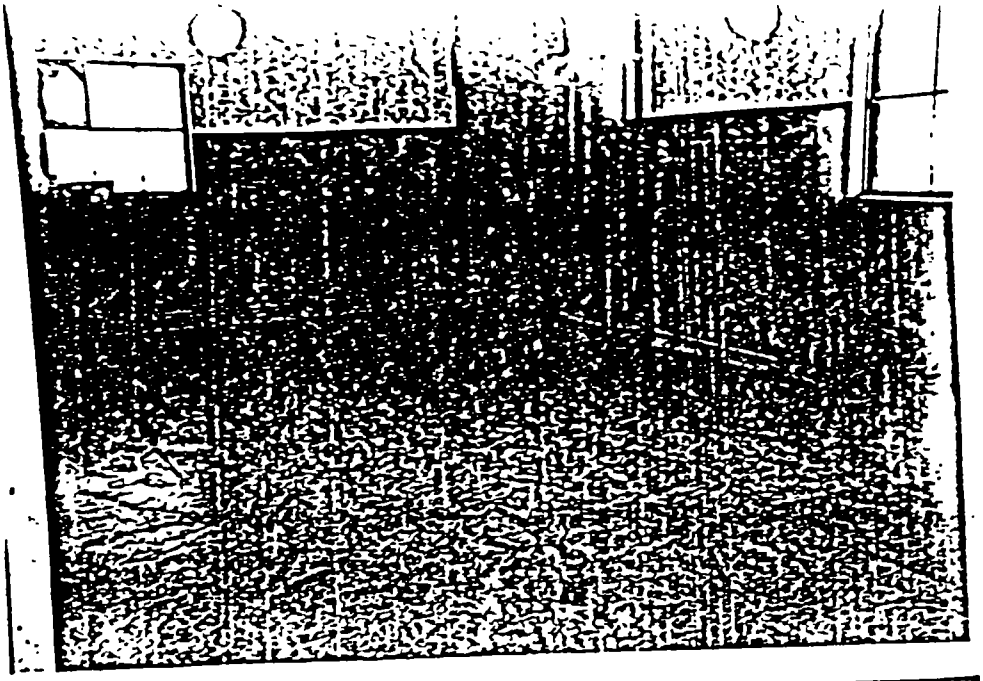
		Cost
1.	Professional Engineer	$1,500
2.	Cleaning supplies, waste packaging materials, photos	$ 282
3.	Three (3) laborers @ 32 hours each	$1,682
4.	Analysis	
	ARDL	$ 484
	Chem Clear	$2,450
5.	Waste transport and treatment	$2,475
	Total	$8,873

001075

g) Photo documentation of closure

Photographs were taken of each building before, during, and after closure activities. They are enclosed.

BEFORE



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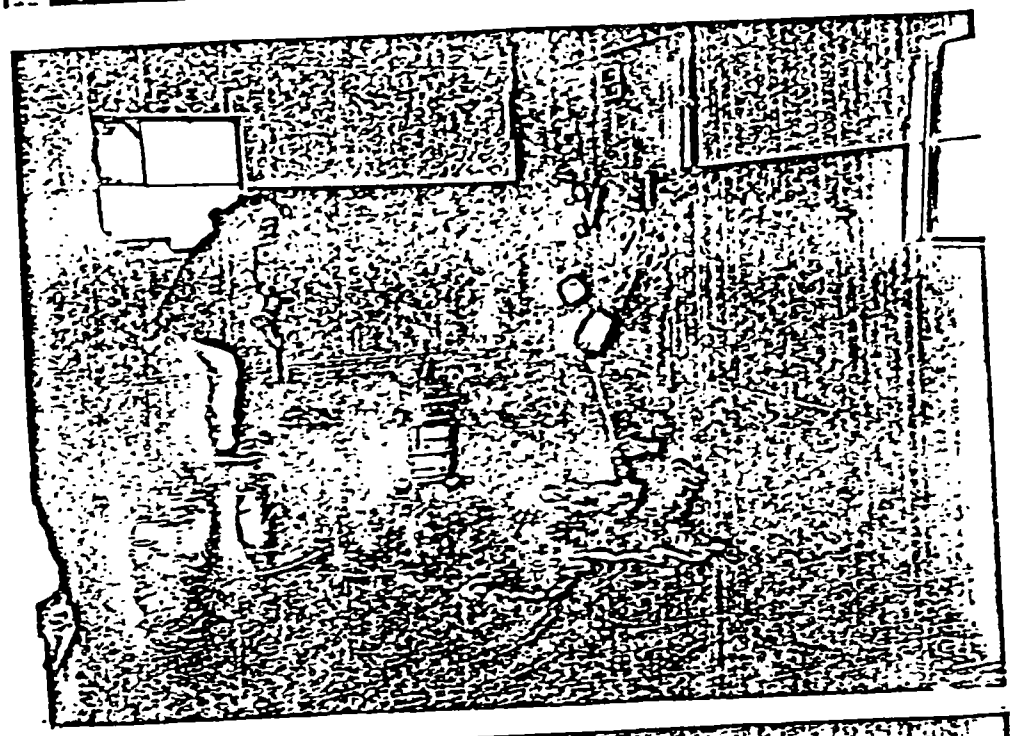

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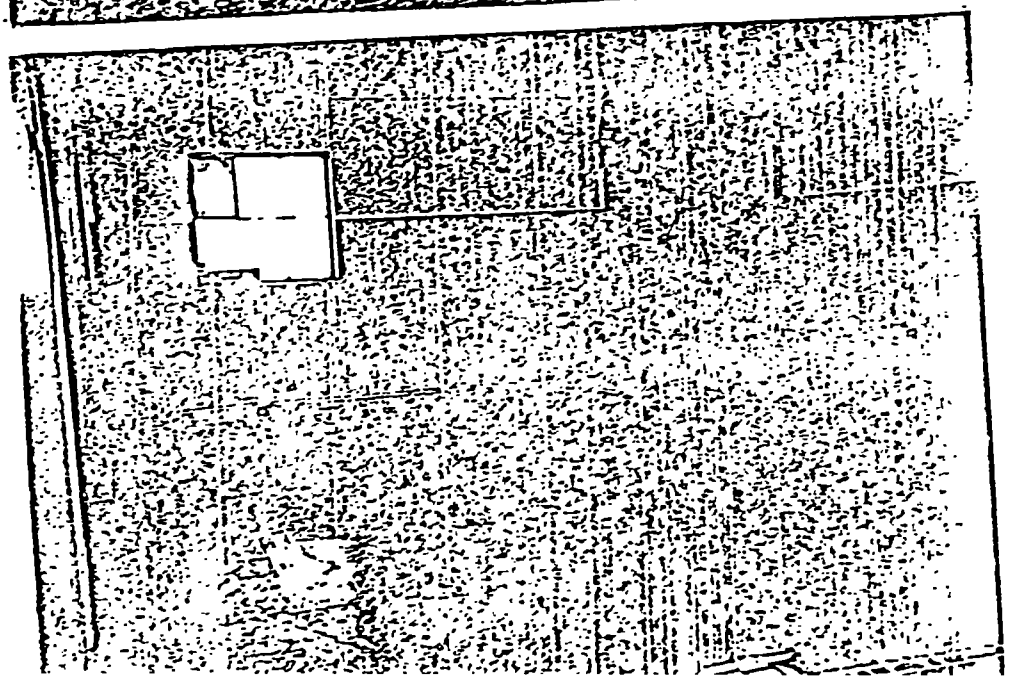

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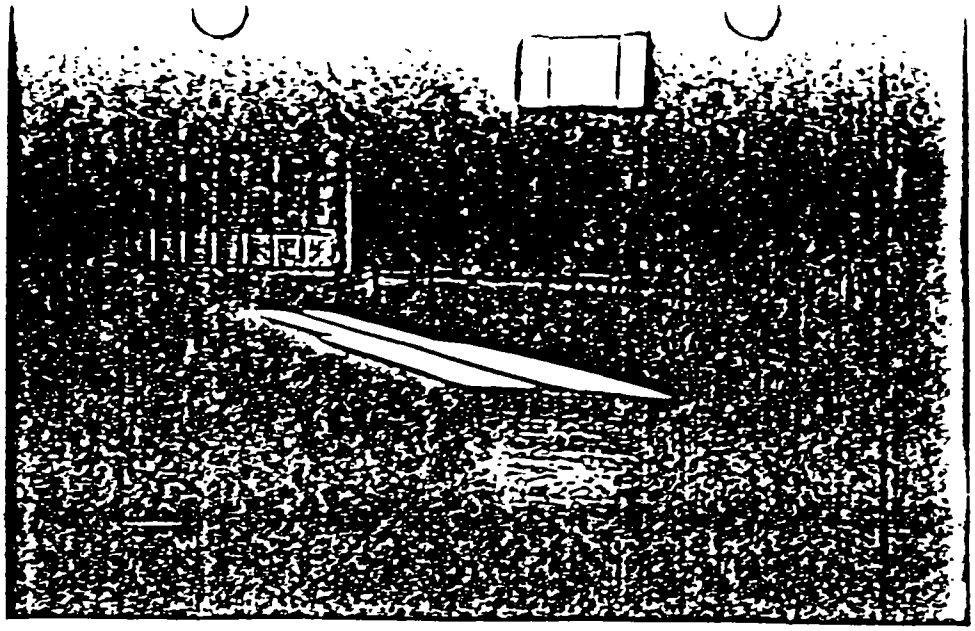

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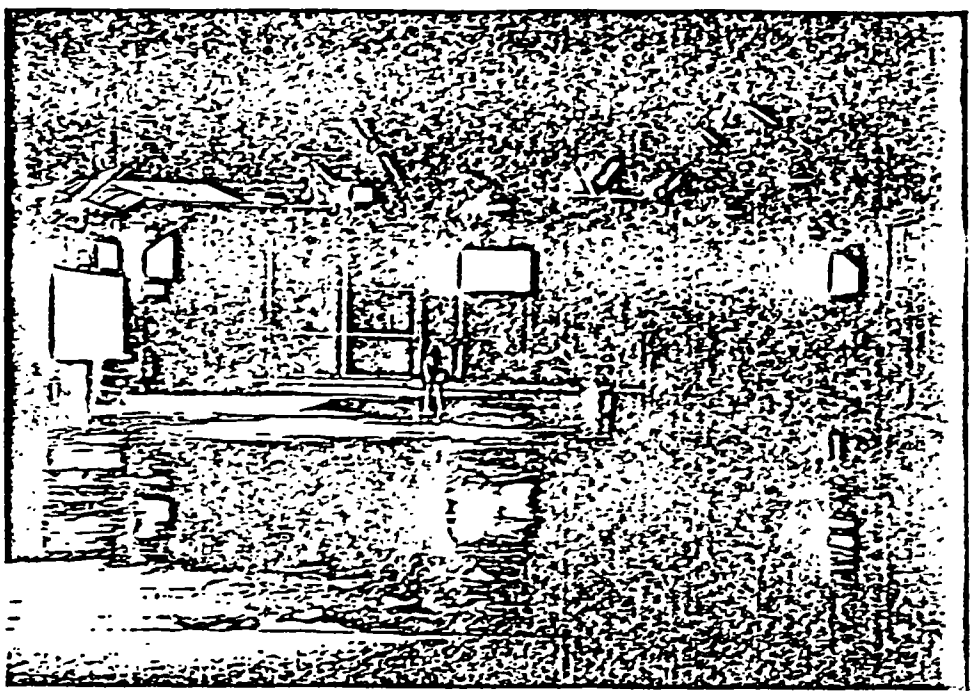

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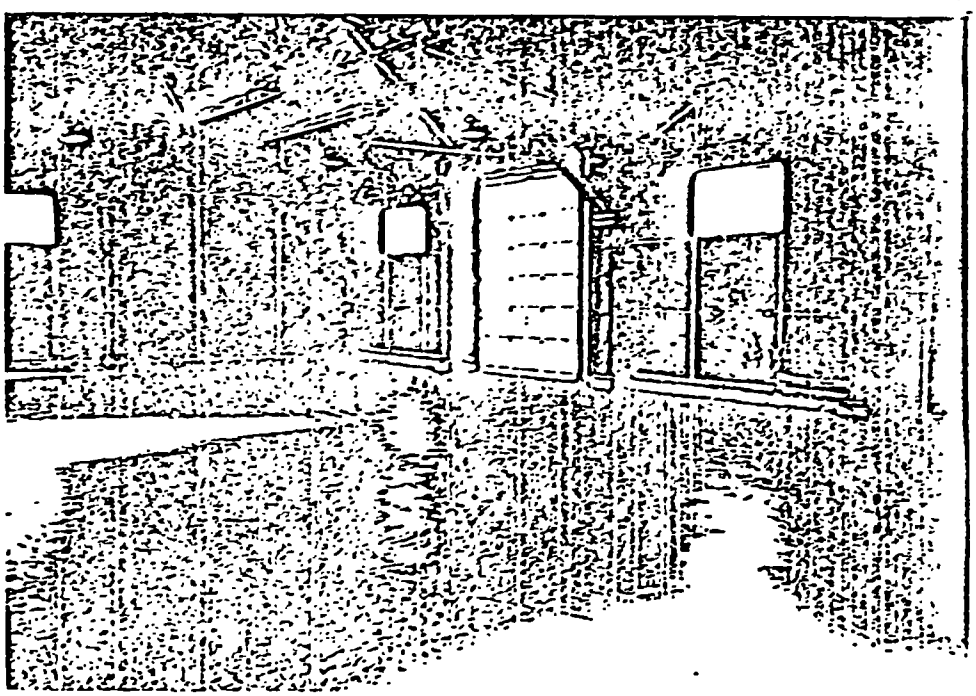
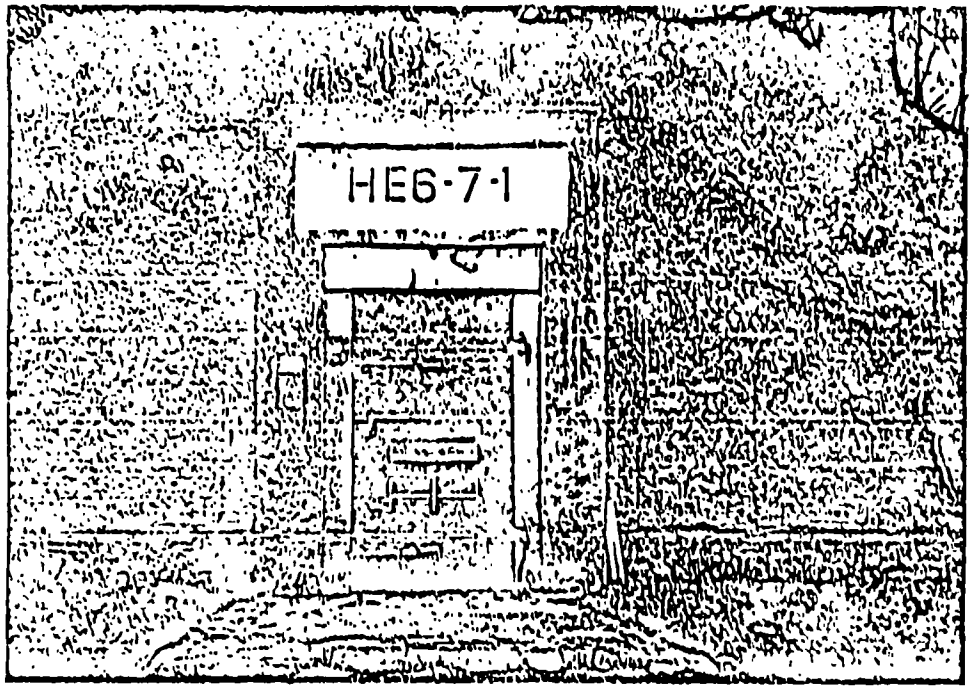


BUILDIN 6-7-1



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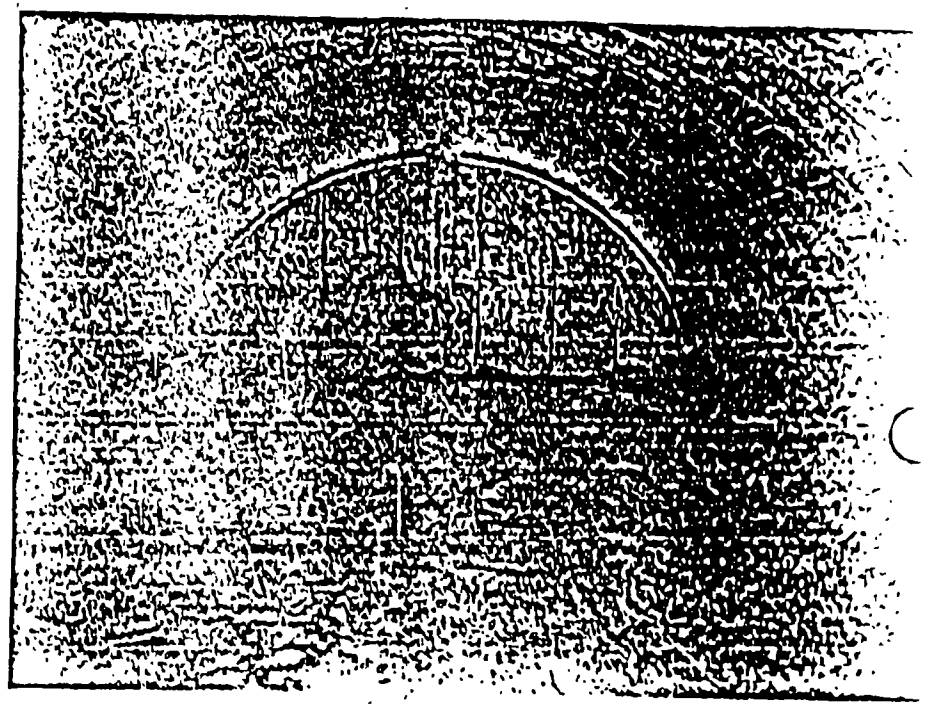

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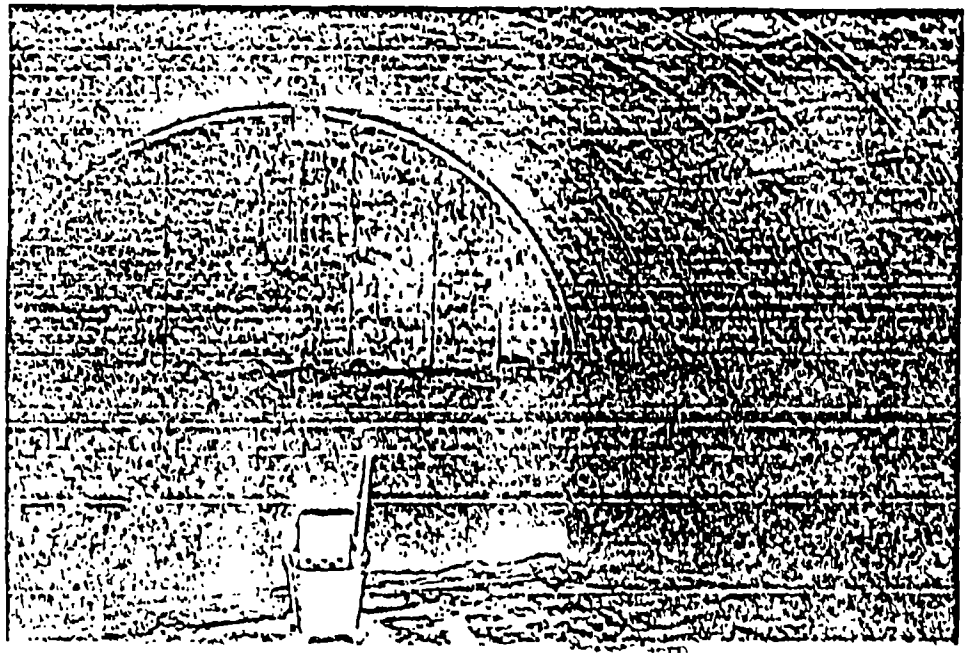

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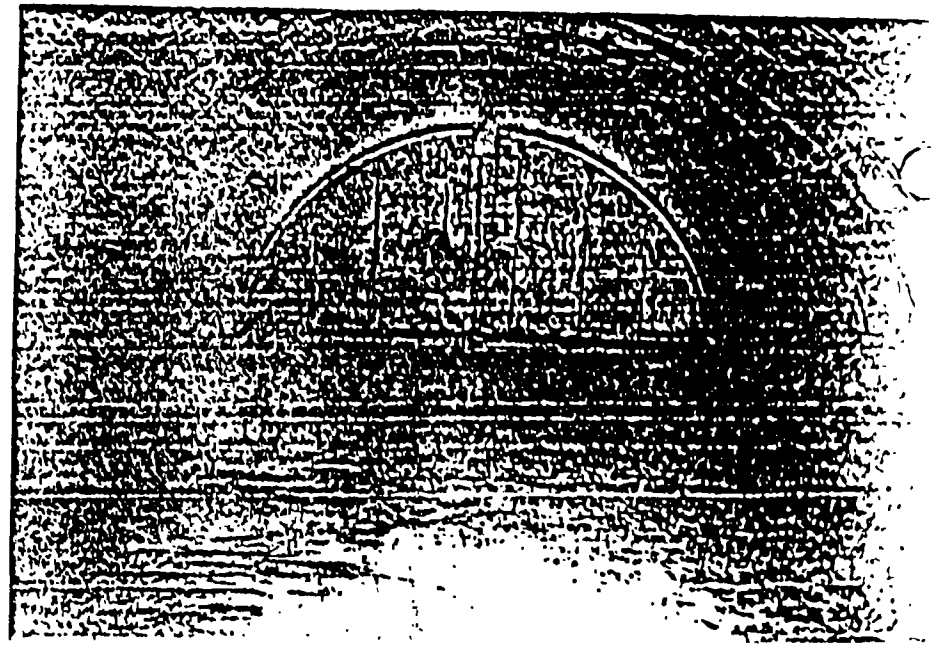

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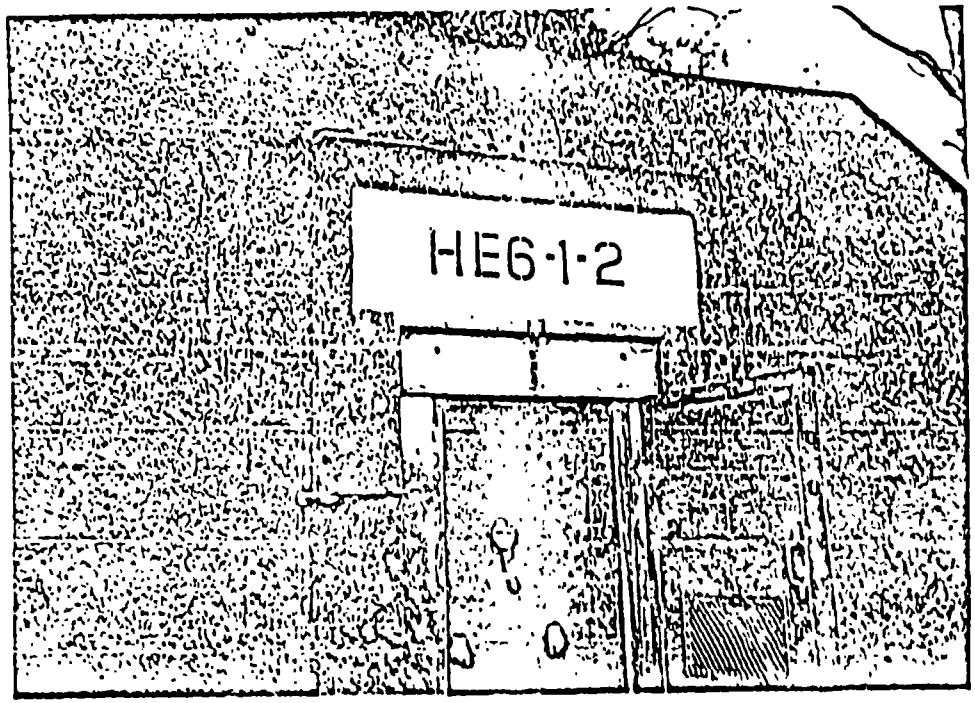
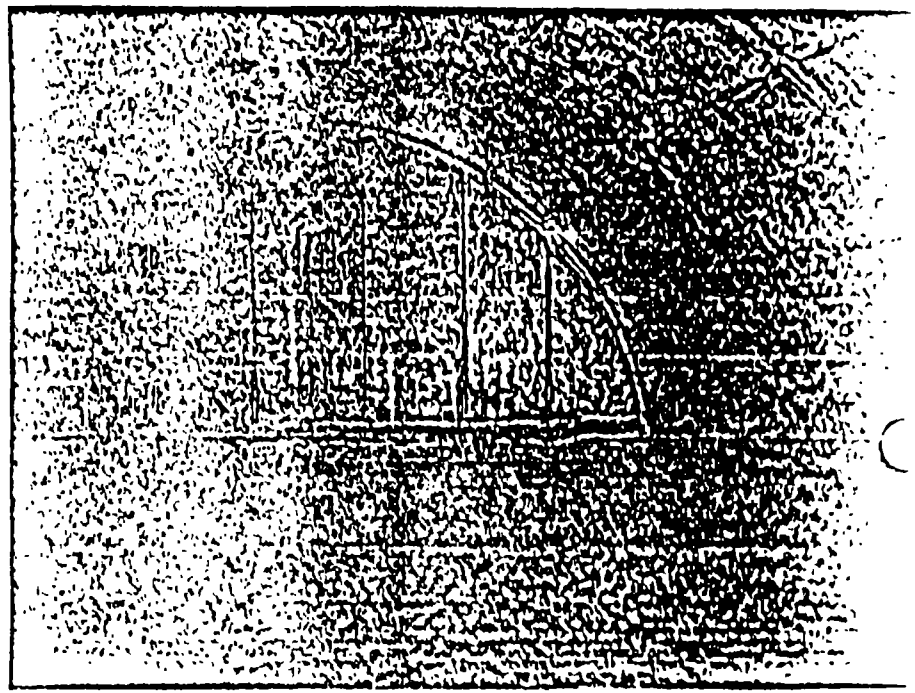
BUILDIN 5-1-2

BEFORE





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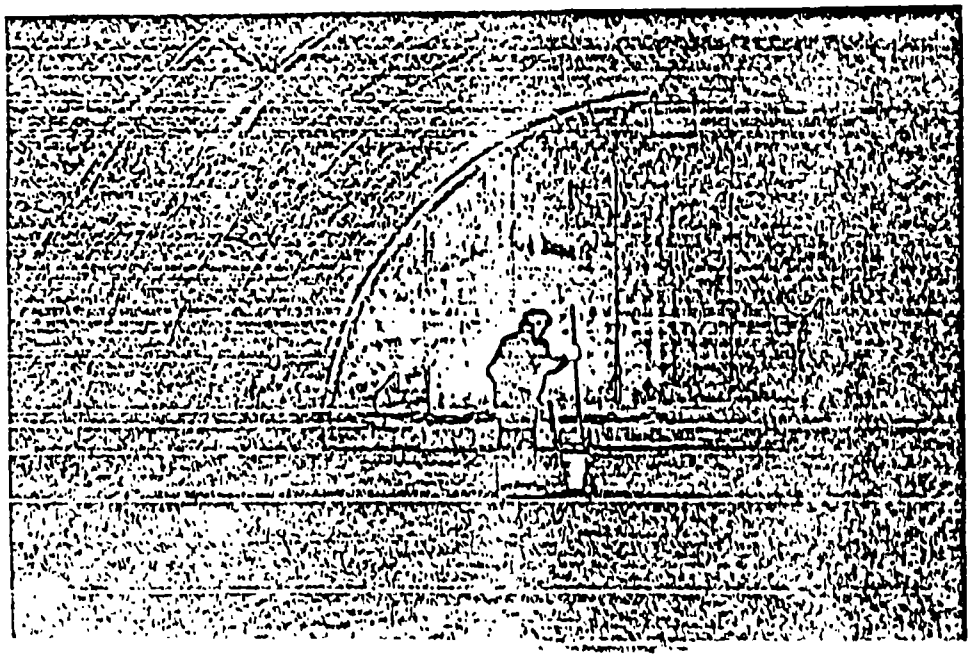

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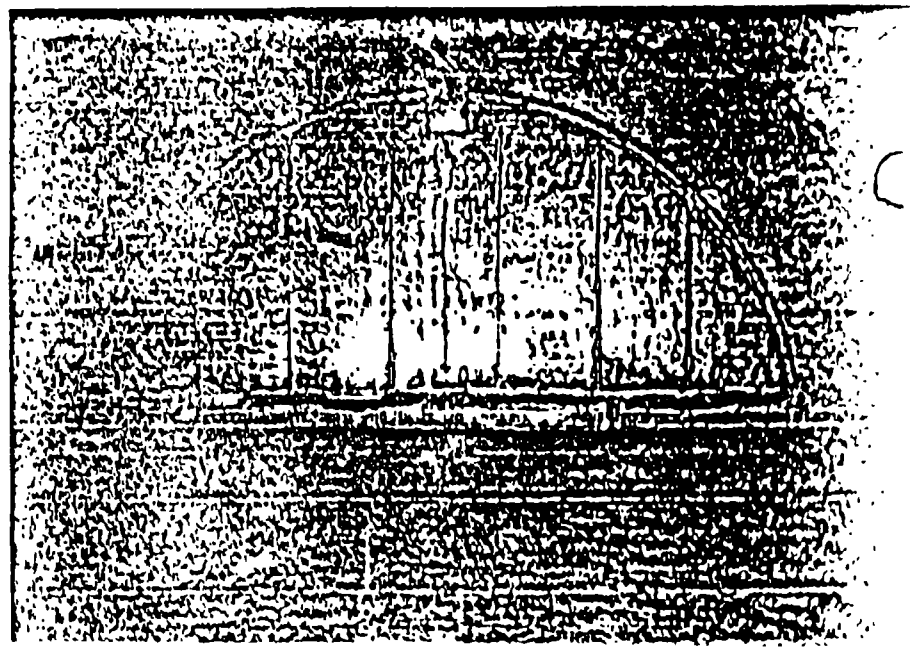
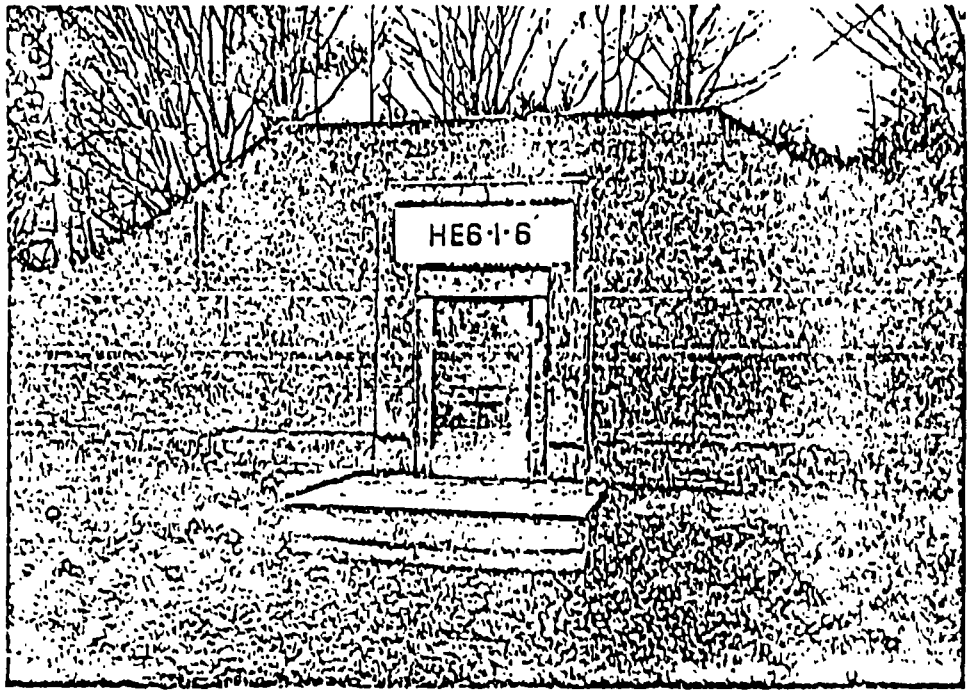
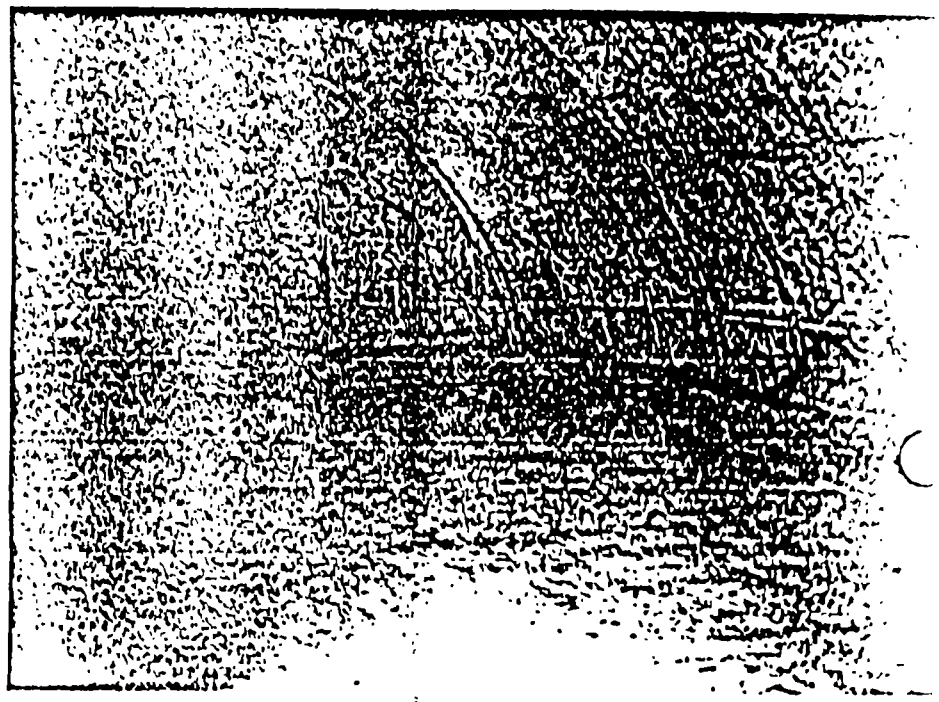


033100

BUILDIN -1-6

BEFORE





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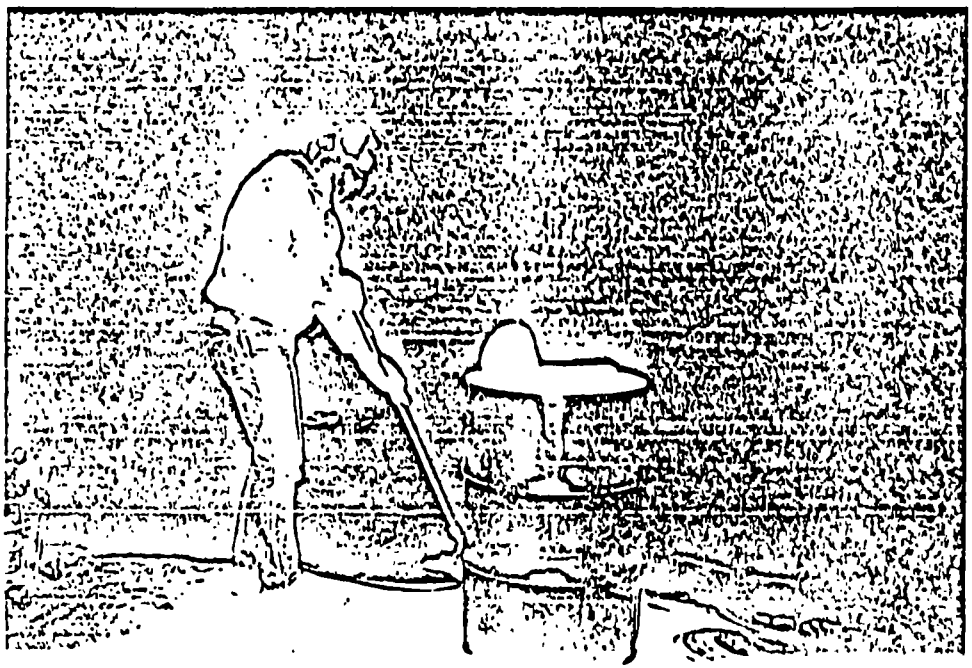

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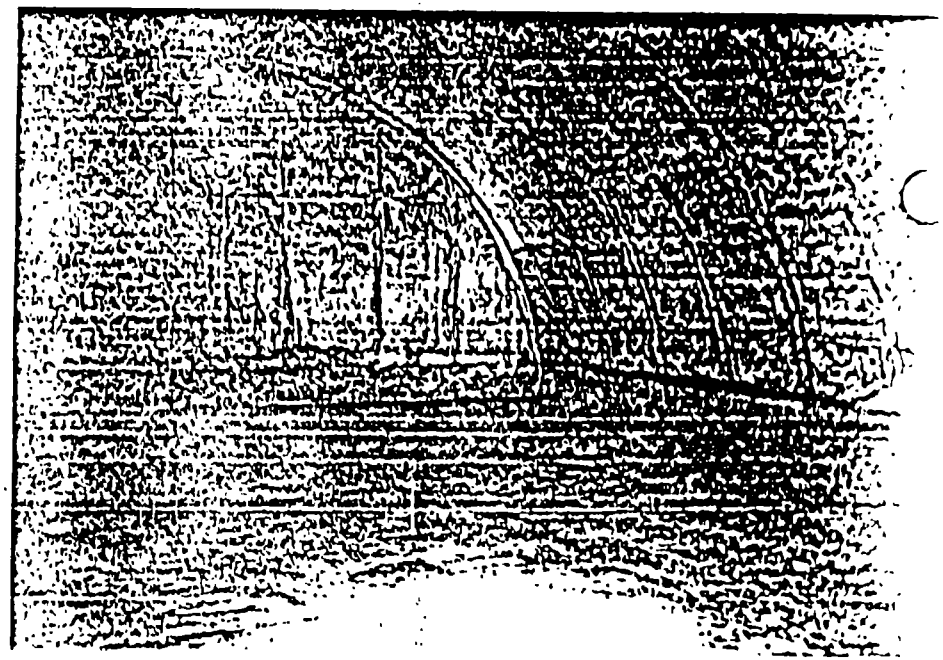


UN1984

ATTACHMENT 3

MODIFIED PART A APPLICATION

Form Approved OMB No. 158-R0175

FORM 1 GENERAL — EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F I L 8 1 4 3 6 0 9 4 8 7 D

I. EPA I.D. NUMBER

II. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X	
D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: O L I N C O R P O R A T I O N M A R I O N O P E R A T I O N S

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 H E I N Z J R A R T H U R	6 1 8 9 8 5 8 2 1 1

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 P O B O X 2 7 8

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 M A R I O N	I L	6 2 9 5 9

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 O R D I L L I N D U S T R I A L A R E A

B. COUNTY NAME: I L L I A M S O N

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 M A R I O N	I L	6 2 9 5 9	

EPA Form 3510-1 (6-80)

CONTINUE ON REVERSE

001283

A. FIRST	B. SECOND
7 3482 (specify) SMALL ARMS AMMUNITION	7 3489 (specify) ORDNANCE AND ACCESSORIES, NOT ELSEWHERE CLASSIFIED
C. THIRD	**D. FOURTH**
7 (specify)	7 (specify)

II. OPERATOR INFORMATION

A. NAME

B OLIN CORPORATION

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☒ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC (other than federal or state), O = OTHER (specify)

P (specify)

D. PHONE (area code & no.)

A 203 356 2000

E. STREET OR P.O. BOX

120 LONGRIDGE ROAD

F. CITY OR TOWN	G. STATE	H. ZIP CODE	IX. INDIAN LAND
B STAMFORD	CT	06904	Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
9 N	9 P
B. UIC (Underground Injection of Fluids)	**E. OTHER (specify)**
9 U	9 (specify) SEE ATTACHED SHEET
C. RCRA (Hazardous Wastes)	**E. OTHER (specify)**
9 R	9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Manufacture of ordnance products such as small and medium caliber ammunition and solid propellant gas generator propulsion systems dependent on U.S. Government and foreign subsidiaries contracts.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
ARTHUR HEINZ, JR. DIRECTOR-MARION OPERATIONS	Arthur Heinz, Jr.	2/17/88

COMMENTS FOR OFFICIAL USE ONLY

ADDENDUM TO:
USEPA FORM 3510-1

X. EXISTING ENVIRONMENTAL PERMITS

NOTE: 1) Pertains to all Olin-Marion facilities
2) Active permits as of February 1988

ILLINOIS EPA AIR POLLUTION CONTROL PERMITS:

ID NO.: 199862AAB

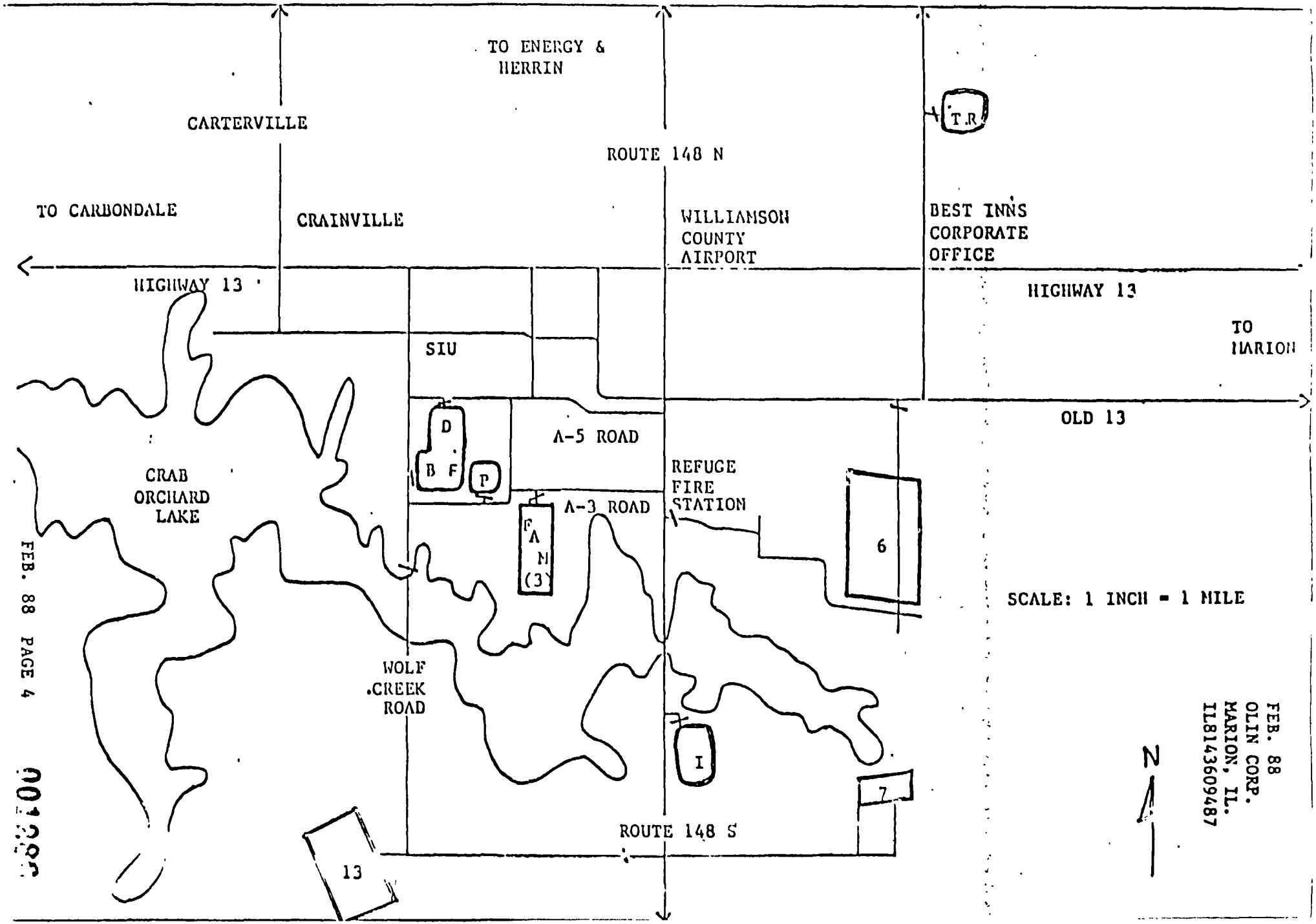
PERMIT NOs.		
	73030350	77080032
	73030352	78110033
	73030353	82040075
	73030720	82040082
	74010107	83090009
	75010035	84090038
	76120085	85010047
	76120086	85040008
	76090072	86090004

ILLINOIS EPA WATER POLLUTION CONTROL PERMIT:

PERMIT NO.: 1983-EA-1675 (INDUSTRIAL TREATMENT PLANT)

ILLINOIS EPA LAND POLLUTION CONTROL PERMITS:

PERMIT NOs.: 1982-9-OP (WASTE MANAGEMENT FACILITY - ORDILL)
1981-58-OP (WASTE MANAGEMENT FACILITY - TEST RANGE)
0312 (SPECIAL WASTE HAULING PERMIT)
950421 (SPECIAL WASTE STREAM PERMIT - ORDILL STORAGE)
997506 (SPECIAL WASTE STREAM PERMIT - TEST RANGE)


TO ENERGY & HERRIN
CARTERVILLE
ROUTE 148 N
T.R
TO CARBONDALE
CRAINVILLE
WILLIAMSON COUNTY AIRPORT
BEST INNS CORPORATE OFFICE
HIGHWAY 13
HIGHWAY 13
TO MARION
SIU
OLD 13
D
B F
P
A-5 ROAD
REFUGE FIRE STATION
CRAB ORCHARD LAKE
A-3 ROAD
FAN (3)
6
SCALE: 1 INCH = 1 MILE
WOLF CREEK ROAD
I
7
ROUTE 148 S
13
N
FEB. 88 PAGE 4
FEB. 88
OLIN CORP.
MARION, IL.
IL814360948?

XI. MAPS - TOPOGRAPHIC

The maps on the following pages were excerpted from the geological survey map as indicated. The areas of Olin included are as follows:

AREA 13

CRAB ORCHARD LAKE QUADRANGLE
ILLINOIS–WILLIAMSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ROAD CLASSIFICATION

Heavy duty — Light-duty
Medium-duty — Unimproved dirt
State Route

QUADRANGLE LOCATION

CRAB ORCHARD LAKE, ILL.

N3737.5—W8900/7.5

1966
PHOTOREVISED 1978
AMS 3159 II NE–SERIES V863

Mapped, edited, and published by the Geological Survey

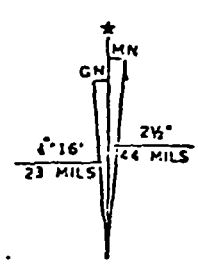
Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1963. Field checked 1966

Polyconic projection. 1927 North American datum
10,000-foot grid based on Illinois coordinate system, east zone
1000-meter Universal Transverse Mercator grid ticks, zone 16, shown in blue

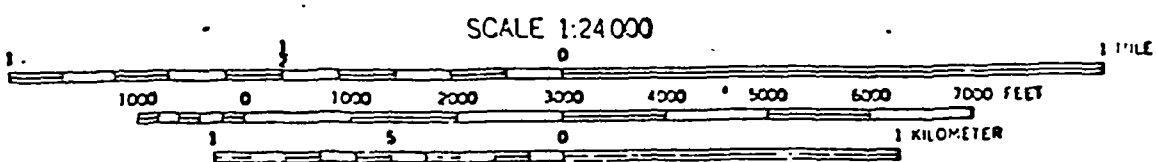
Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked

Revision shown in purple compiled from aerial photographs taken 1976 and other source data. This information not field checked. Map edited 1978



UTM GRID AND 1978 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

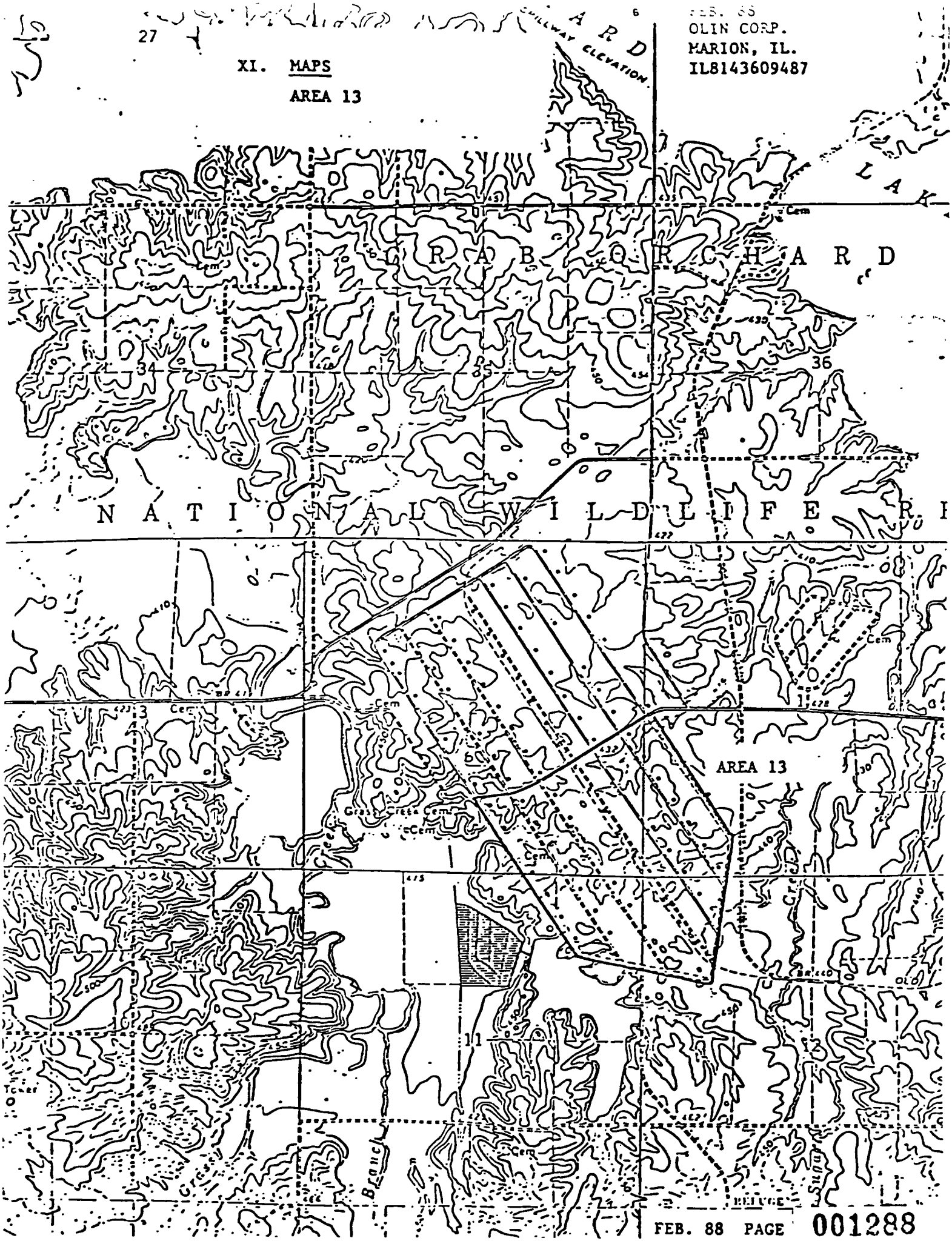
SCALE 1:24 000



CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

XI. MAPS

AREA 13



Please print or type in the unshaded areas only
(Fill-in areas are spaced for elite type, i.e., 12 characters/inch)

Form Approved OMB No. 158-S00004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F I L 8 1 4 3 6 0 9 4 8 7 1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

☐ 2. NEW FACILITY *(Complete item below.)*

C 8 — YR. MO. DAY — FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR. MO. DAY — FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION *(place an "X" below and complete item I above)*

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.
1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

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

C — DUP — 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	60,000	G		7				
2					8				
3					9				
4					10				

C. SPACE FOR ADDITIONAL PROCESS CODES: OR DESCRIBING OTHER PROCESSES (code T04), OR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four—digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four—digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non—listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

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

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

PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non—listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non—listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1), and (3) Enter in the space provided on page 4, the line number and the additional code(s).

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

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

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

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

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K054	900	P	T03 D80	
X-2	D002	400	P	T03 D80	
X-3	D001	100	P	T03 D80	
4	D002				included with above

EPA Form 3510-3 (6-60)

CONTINUE ON PAGE 3

IL8143609487

FEB. 88 PAGE 2

001290

Continued from page 2

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
WIL814360948711	W DUP 2 DUP

V. DESCRIPTION OF HAZARDOUS WASTES (continued)

NO. (enter)	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D001	300,000	P	S01	
2	D003	INCLUDED WITH LINE 1	P	S01	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

USE THIS SPACE TO LIST ADDITIONAL ACCESS CODES FROM ITEM D.1, ON PAGE 2

EPA I.D. NO. (enter from page 1)

F I L 8 1 4 3 6 0 9 4 8 7 | 16

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground-level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes & seconds)	LONGITUDE (degrees, minutes, & seconds)
37 44 00	89 01 15

VIII. FACILITY OWNER

A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
U.S. GOV'T DEPT. OF INTERIOR, FISH AND WILDLIFE SERVICE	618-997-3344

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
P.O. BOX J	CARTERVILLE	IL	62918

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
NORREL WALLACE MANAGER	Norrel Wallace	2-18-88

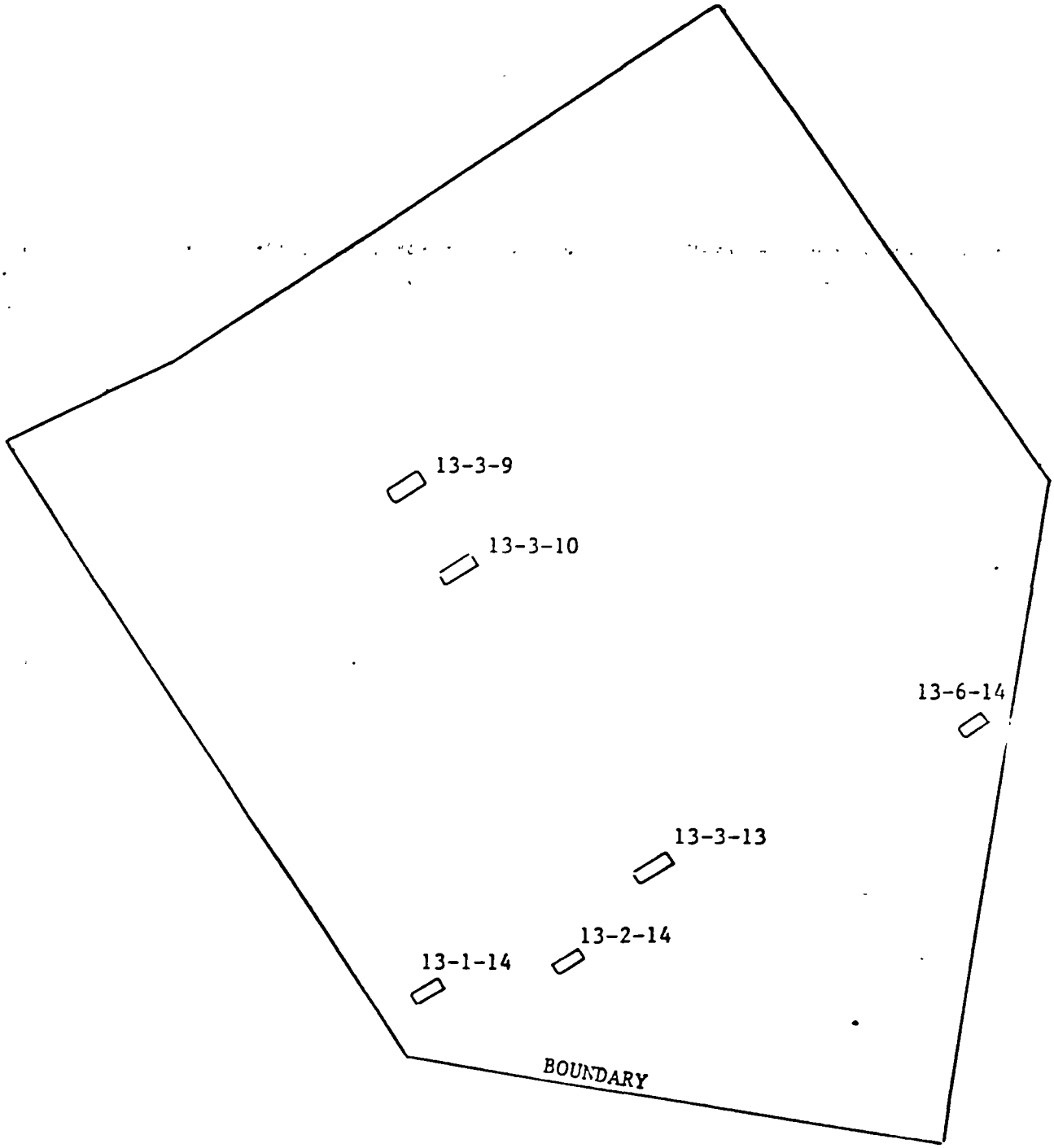
X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
ARTHUR HEINZ, JR. DIRECTOR	Arthur Heinz, Jr.	2/17/88

V. FACILITY DRAWING (see page 4)

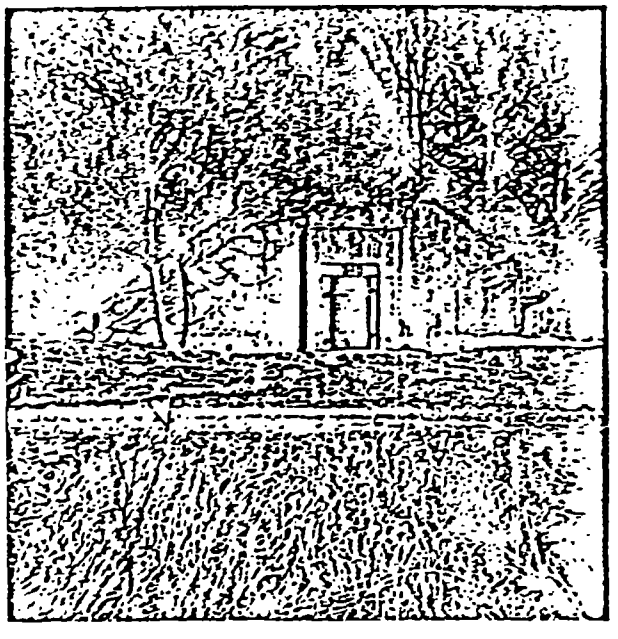
AREA 13: CONTAINER STORAGE
BUILDING DIMENSIONS: 25'X 60' EACH



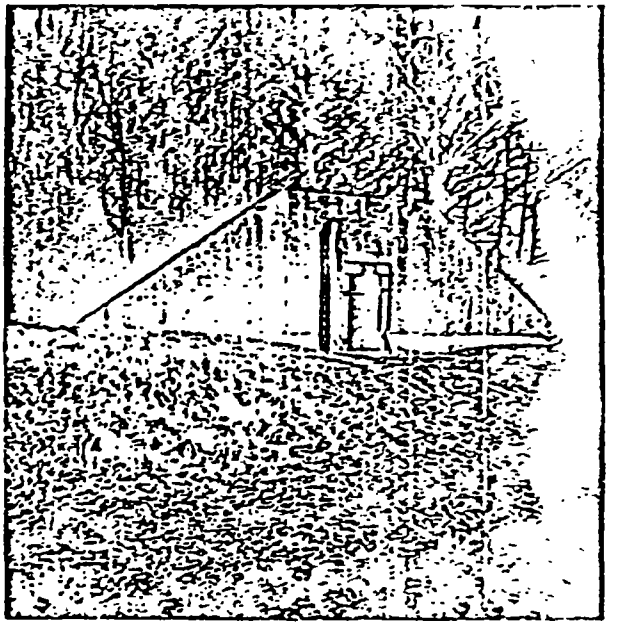
SCALE: 3" = 20 '

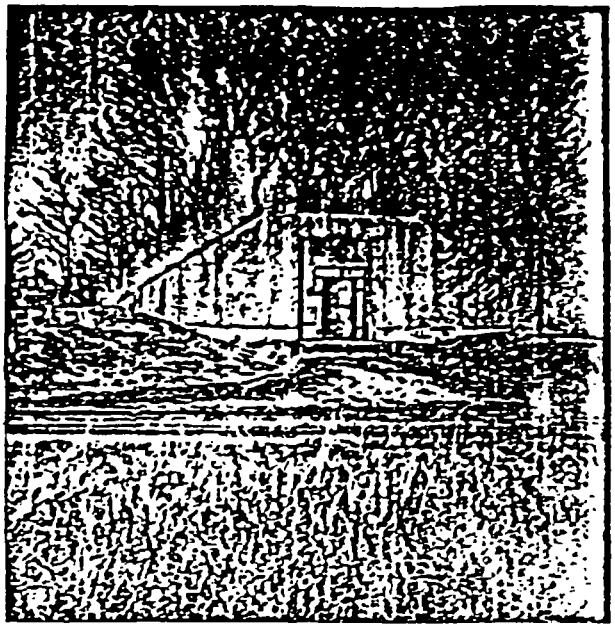
13-3-9
FEB. 17, 1988

13-3-10
FEB. 17, 1988



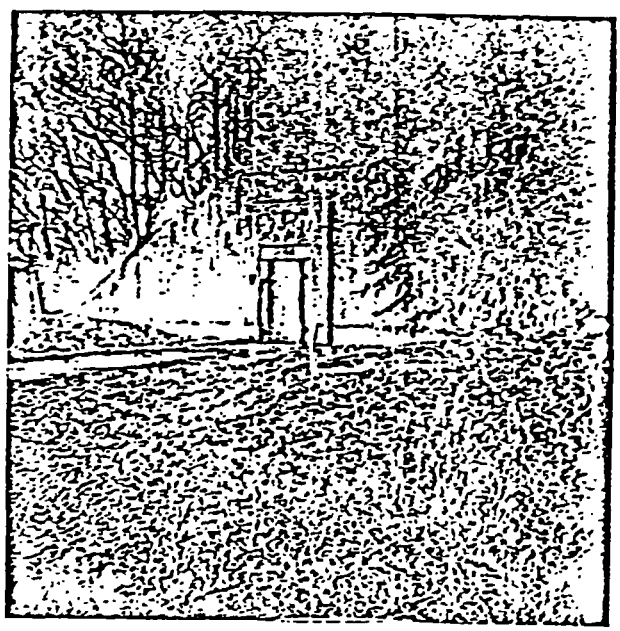
13-3-13
FEB. 17, 1988



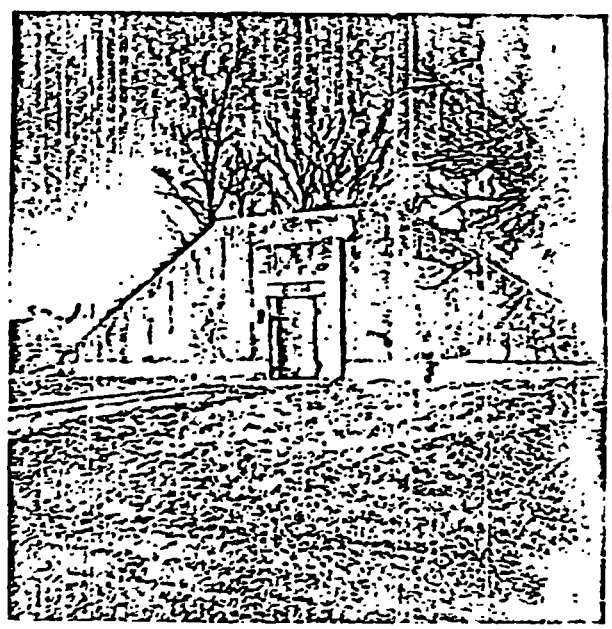


13-1-14
FEB. 17, 1988

13-2-14
FEB. 17, 1988



13-6-14
FEB. 17, 1988



ATTACHMENT 4

REVISED CLOSURE COST ESTIMATE AND

FINANCIAL ASSURANCE INSTRUMENT

REVISED CLOSURE COST ESTIMATE

	CLOSURE COSTS
A. REMOVAL OF EXPLOSIVE WASTE FROM ACTIVE STORAGE BUILDINGS TO THERMAL TREATMENT FACILITY.	
a. Laborers (240 manhours @ 7.65/hr.)	$ 1,836
b. Overhead @ 120%	2,203
c. Hauling (60 trips @ $30 ea.)	1,800
Subtotal	$ 5,839
B. COMPLETE CLEANUP OF ALL STORAGE BUILDINGS	
a. Laborers (48 manhours @ 7.65/hr.)	$ 367
b. Overhead @ 120%	440
c. Cleaning and collection materials	50
d. Analysis	2,000
e. Offsite treatment/freight	2,500
Subtotal	$ 5,357
C. COMPLETE THERMAL TREATMENT OF ALL EXPLOSIVE WASTE	
a. Laborers (960 manhours @ 7.65/hr.)	$ 7,344
b. Overhead @ 120%	8,813
Subtotal	$16,157
D. CLOSURE CERTIFICATION	
a. Professional Engineer/Certification	$ 1,500
Subtotal	$ 1,500
E. SUBTOTAL	$28,853
CONTINGENCY @ 25%	7,213
F. TOTAL CLOSURE COST @ 1981 DOLLARS	$36,066

$36,066	(1981)	
$39,471	(1982)	[1.0944 INDEX]
$41,839	(1983)	[1.06 INDEX]
$43,513	(1984)	[1.04 INDEX]
$45,254	(1985)	[1.04 INDEX]
$46,747	(1986)	[1.033 INDEX]
$48,149	(1987)	[1.03 INDEX]
$49,595*	(1988)	[1.03 INDEX]

*Rounded off per Corporate Directive as indicated on the financial demonstration.

Olin
ORDNANCE

MARION OPERATIONS

May 19, 1988

Illinois Environmental Protection Agency
Division of Land Pollution Control #24
2200 Churchill Road
Springfield, Illinois 62794-9276

Attention: Mr. Lawrence W. Eastep, P.E.
Manager, Permit Section

Reference: Close Log Number C314
Olin Corporation IL8143609487
Olin Correspondence 17 Feb 88

Dear Mr. Eastep:

Per telephone conversation with Wally Elbeck, the enclosed form was completed according to his instructions to remove the T04 listing from Olin's Part A permit application. However, the Part A permit application will remain active for this facility for S01 storage.

If further information is required, please contact the undersigned.

Very truly yours,

Arthur Heinz, Jr.
Director

Encl.

AHJ:JMS/pv

FACILITY PART A WITHDRAWAL REQUEST FORM

Complete and Submit to:

Illinois Environmental Protection Agency
Attn: Carrie Agrall
Division of Land Pollution Control #24
Permit Section
2200 Churchill Road
Springfield, IL 62706

Date: 05 / 19 / 88

Facility Name: OLIN CORPORATION
(As it appears on the Federal Printout or on the accepted Part A)

Federal ID Number: IL 8 1 4 3 6 0 9 4 8 7

State ID Number: 1 9 9 8 6 2 0 0 1 3

Location of Facility: P. O. Box 278 Ordill Area Rt. 148 South
(Street Address)

Marion (City) 62959 (Zip Code) Williamson (County)

Contact Person & Phone #: Arthur Heinz, Jr. Director (618) 985 - 3211
(Name and Title)

A representative of our facility previously submitted a Part A RCRA Interim Status Permit Application indicating the handling of hazardous waste by the following process(es):

Treatment		Storage		Disposal	
Tank	T01 ___	Container (barrel, drum, etc.)	S01 ___	Injection Well	D79 ___
Surface Impoundment	T02 ___	Tank	S02 ___	Landfill	D80 ___
Incineration	T03 ___	Waste Pile	S03 ___	Land Application	D81 ___
*Other (Specify Below)	T04 X	Surface Impoundment	S04 ___	Ocean Disposal	D82 ___
* Integral part of manufacturing process				Surface Impoundment	D83 ___

IL 532-1489
LPC 233 8/86

001299

The Part A was filed in error for the following reason(s):

		COMMENTS*
___	A. Asbestos	
___	B. Drum Recycling	
___	C. Elementary Neutralization**	
___	D. Elementary Neutralization and Wastewater Treatment Unit**	
___	E. Exempted Waste	
___	F. Non-Hazardous Waste	
___	G. Pickle Liquor***	
___	H. Protective Filer	
___	J. Raw Materials	
___	K. Recycling (Specify type of recycling, and exemption claimed)	
___	M. Small Quantity Generator	
___	N. Storage less than 90 days	
___	P. Transfer Facility	
___	Q. Transporter	
___	R. Wastewater Treatment Unit**	
___	S. Non-Existing Facility (Never Built)	
X	T. Other	Integral part of manufacturing process

Include copies of any supportive documents (i.e., waste analysis, manifests, amended Part A's, etc.) to substantiate non-regulated claim.

* Comment Section should be used to explain in detail the reason for claiming non-regulated status. If more than one reason is checked, each comment should reflect the alpha letter next to each explanation.

** Whenever a Treatment Exemption is claimed, the Comment Section should indicate what process generated the waste (i.e., plating operation, metal heat treating, etc.).

*** Other than spent pickle liquor generated by steel finishing operations of plants that produce iron and/or steel.

Based on the above information (check one):

___ 1. Please withdraw the RCRA Part A Permit Application as our facility never treated, stored (more than 90 days) or disposed of hazardous waste since November 19, 1980 and is currently not regulated.

_X_ 2. Please withdraw the RCRA Part A Permit Application as our T04 facility is exempt from regulation.Ⓢ

___ 3. # Please withdraw the RCRA Part A Permit Application and change the regulated status to:

___ a. Generator

___ b. Transporter

(If number 3 is checked, a new or subsequent 8700-12 (EPA Hazardous Waste Notification) may be required).

I am aware that should our facility treat (i.e.,transport, generate, treat, store or dispose of) any hazardous waste in the future, we would be required to comply with the permitting (i.e., notification and/or permitting) requirements of RCRA.

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

Arthur Heinz, Jr. Director 19 May 88
+(Name and Title - Date)

+ (Signature must be in compliance with 702.126 (i.e., responsible corporate officer or designee, general partner or the proprietor, principal executive officer of an agency, etc.)

BB:tk:3/1/42(8/5/86)

Ⓢ THIS REQUEST IS TO WITHDRAW THE T04 UNITS ONLY. THE RCRA PART A PERMIT APPLICATION STILL LISTS SIX (6) CONTAINER AREAS (S01).

Illinois Environmental Protection Agency 2200 Churchill Road, Springfield, IL 62706

217/782-6762

Refer to: 1998620013 -- Williamson County
Marion/Olin-Marion
Closure Plan Approved: September 25, 1987 Log #C-314
ILD8143609487
RCRA-Closure

May 24,1988

Olin Corporation, Winchester Group
Attn: Arthur Heinz, Jr., Director
Post Office Box 278
Marion, Illinois 62959

Dear Mr. Heinz:

The subject hazardous waste management facility was inspected by a representative of this Agency on April 11, 1988. The inspection revealed that the closure activity was completed in accordance with the approved closure plan dated September 25, 1987 for the six (6) container storage areas designated as 7-1-2, 7-3-3, P-1-3, 6-1-2, 6-1-6, and 6-7-1.

Certification that the six (6) hazardous waste storage areas 7-1-2, 7-3-3, P-1-3, 6-1-2, 6-1-6, and 6-7-1 had been closed in accordance with the approved closure plan by the owner/operator, Arthur Heinz, Jr., and an independent registered professional engineer, Howard E. Hesketh, P.E., of Illinois was received at this Agency February 22, 1988.

The Agency has determined that the closure of the six (6) hazardous waste container storage areas designated as 7-1-2, 7-3-3, P-1-3, 6-1-2, 6-1-6, and 6-7-1 has apparently met the requirements of Interim Status Standards, 35 Ill. Admin. Code, Part 725 (40 CFR, Part 265).

If you have any questions, please contact Wally K. El-Beck at 217/782-2445.

Very truly yours,

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:WKE:rdl189j/31

cc: Marion Region
USEPA Region V, Mary Murphy
USEPA Region V, Art Kawatachi
Arthur Heinz, P.E.
Division File
Andy Vollmer
Compliance Section

RECEIVED
MAY 26 1988
J. SCHNEIDERMAN

001202

Olin
ORDNANCE

MARION OPERATIONS

November 3, 1988

Illinois Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62794-9276

Attention: Mr. Lawrence W. Eastep, P.E.
Manager, Permit Section

Reference: Olin Corporation
USEPA Notice of Violation 30 April 1986
Request for I.D. Numbers

Dear Mr. Eastep:

In efforts to resolve the USEPA Notice of Violation dated 30 April 1986, Olin has completed partial closure of six (6) storage buildings and removal of treatment from the Part A permit application (Reference IEPA Log No. C-314). As a result, Olin is now in position to propose an identification number scheme for its Olin-Ordill plant areas.

Olin requests that USEPA No. IL8143609487 and Ill. No. 1998620013 be retained for Area 13. This area consists of six (6) hazardous waste storage buildings. It is proposed that new numbers be assigned to the "I" Area; "P" Area; and "B,D,F" Area for hazardous waste generator status. In addition, the "B,D,F" Area will also require transporter status. Enclosed is a site map and three (3) EPA Forms 8700-12 Notification of Hazardous Waste Activity, one for each area. Please note that these three (3) areas are also on federal land and a federal EPA number should be assigned to each.

Please advise if this numbering scheme is acceptable. Several of Olin's supplemental waste stream authorization permits will be affected by the I.D. numbering change. Therefore, approval is requested to continue to utilize the existing permits until which time they can be revised to reflect the revised identification numbers.

If further information or clarification is required, please contact the undersigned.

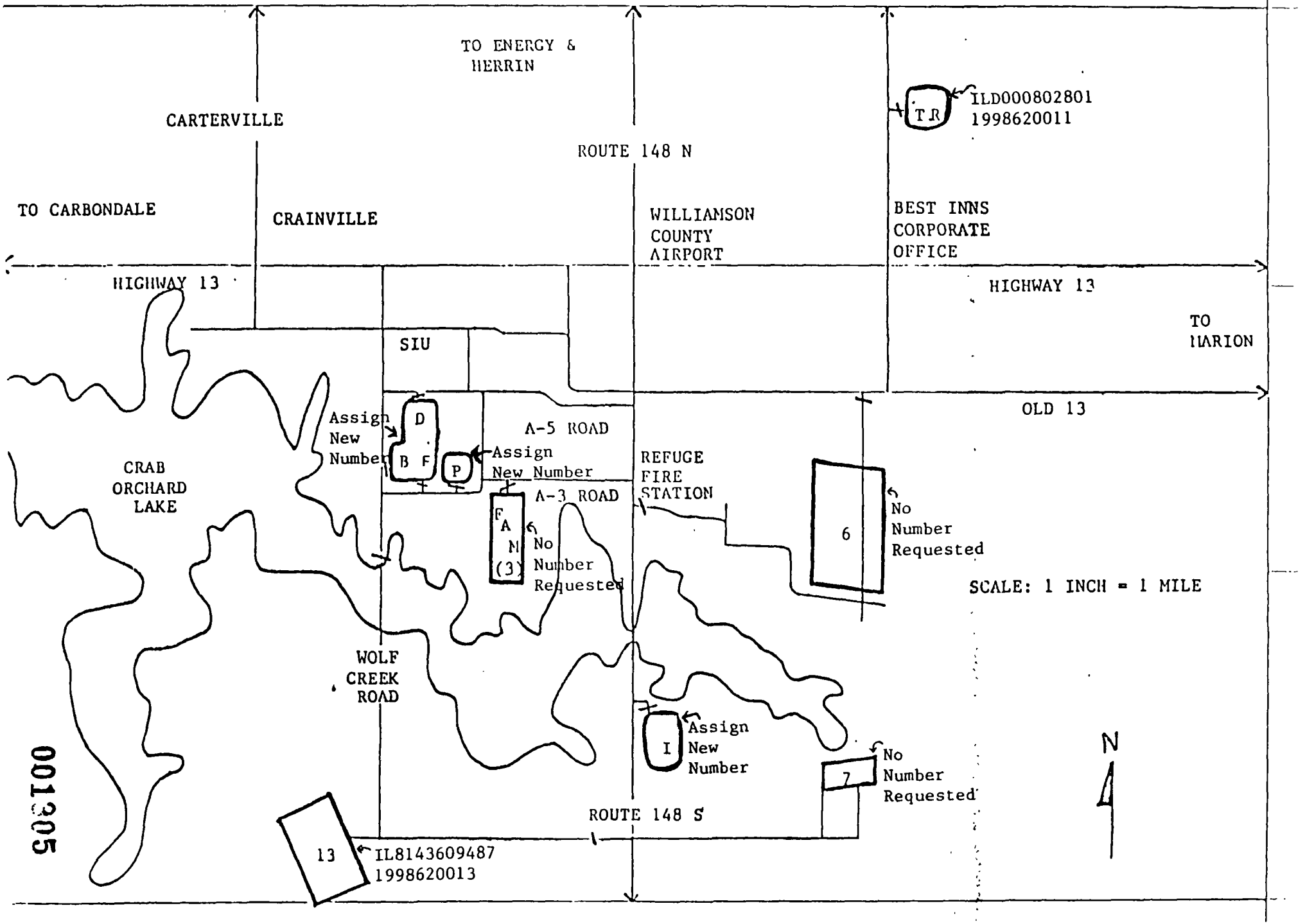
Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AHJ/mh

Enclosures

copy: USEPA Region V
Arlene Kaganove
William E. Muno


TO ENERGY & HERRIN
CARTERVILLE
ROUTE 148 N
T R
ILD000802801
1998620011
TO CARBONDALE
CRAINVILLE
WILLIAMSON COUNTY AIRPORT
BEST INNS CORPORATE OFFICE
HIGHWAY 13
HIGHWAY 13
TO MARION
SIU
OLD 13
Assign New Number
D
B F
P
A-5 ROAD
Assign New Number
REFUGE FIRE STATION
CRAB ORCHARD LAKE
A-3 ROAD
F A M (3)
No Number Requested
6
No Number Requested
SCALE: 1 INCH = 1 MILE
WOLF CREEK ROAD
I
Assign New Number
7
No Number Requested
N
ROUTE 148 S
13
IL8143609487
1998620013
001305

United States Environmental Protection Agency
Washington, DC 20460

EPA Notification of Hazardous Waste Activity

Please refer to the *Instructions for Filing Notification* before completing this form. The information requested here is required by law *(Section 3010 of the Resource Conservation and Recovery Act)*

For Official Use Only

Comments

C C

Installation's EPA ID Number		Approved	Date Received (yr. mo. day)
C F	T/A C 1		

I. Name of Installation

OLIN CORPORATION

II. Installation Mailing Address

Street or P O Box

C 3 P O BOX 278

City or Town	State	ZIP Code
C 4 MARION	IL	62959

III. Location of Installation

Street or Route Number

C 5 RT 148 S ORDILL I AREA

City or Town	State	ZIP Code
C 6 MARION	IL	62959

IV. Installation Contact

Name and Title *(last, first, and job title)*	Phone Number *(area code and number)*
C 2 HEINZ ART DIRECTOR	6189858211

V Ownership

A Name of Installation's Legal Owner	B. Type of Ownership *(enter code)*
C R USDEPTOFINTERIOR	FP

VI. Type of Regulated Waste Activity *(Mark 'X' in the appropriate boxes. Refer to instructions.)*

A Hazardous Waste Activity

- [X] 1a. Generator
- [ ] 1b Less than 1,000 kg/mo.
- [ ] 2 Transporter
- [ ] 3. Treater/Storer/Disposer
- [ ] 4 Underground Injection
- [ ] 5. Market or Burn Hazardous Waste Fuel *(enter 'X' and mark appropriate boxes below)*
  - [ ] a Generator Marketing to Burner
  - [ ] b Other Marketer
  - [ ] c. Burner

B. Used Oil Fuel Activities

- [ ] 6. Off-Specification Used Oil Fuel *(enter 'X' and mark appropriate boxes below)*
  - [ ] a. Generator Marketing to Burner
  - [ ] b. Other Marketer
  - [ ] c Burner
- [ ] 7. Specification Used Oil Fuel Marketer *(or On site Burner)* Who First Claims the Oil Meets the Specification

VII. Waste Fuel Burning: Type of Combustion Device *(enter 'X' in all appropriate boxes to indicate type of combustion device(s) in which hazardous waste fuel or off-specification used oil fuel is burned. See instructions for definitions of combustion devices.)*

- [ ] A Utility Boiler
- [ ] B Industrial Boiler
- [ ] C. Industrial Furnace

VIII. Mode of Transportation *(transporters only — enter 'X' in the appropriate box(es))*

- [ ] A Air
- [ ] B. Rail
- [ ] C. Highway
- [ ] D Water
- [ ] E. Other *(specify)*

IX. First or Subsequent Notification

Mark 'X' in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA ID Number in the space provided below.

- [X] A First Notification
- [ ] B. Subsequent Notification *(complete item C)*

C. Installation's EPA ID Number

ID — For Official Use Only

C													T/A	C
W														1

X. Description of Hazardous Wastes *(continued from front)*

A. Hazardous Wastes from Nonspecific Sources. Enter the four-digit number from 40 *CFR* Part 261.31 for each listed hazardous waste from nonspecific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	**8**	**9**	**10**	**11**	**12**

B. Hazardous Wastes from Specific Sources. Enter the four-digit number from 40 *CFR* Part 261.32 for each listed hazardous waste from specific sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	**20**	**21**	**22**	**23**	**24**
25	**26**	**27**	**28**	**29**	**30**

C. Commercial Chemical Product Hazardous Wastes. Enter the four-digit number from 40 *CFR* Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
U 2 2 1					
37	**38**	**39**	**40**	**41**	**42**
43	**44**	**45**	**46**	**47**	**48**

D. Listed Infectious Wastes. Enter the four-digit number from 40 *CFR* Part 261.34 for each hazardous waste from hospitals, veterinary hospitals, or medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. Characteristics of Nonlisted Hazardous Wastes. Mark "X" in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 — 261.24)*

- [X] 1. Ignitable *(D001)*
- [ ] 2. Corrosive *(D002)*
- [X] 3. Reactive *(D003)*
- [ ] 4. Toxic *(D000)*

XI. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature	Name and Official Title *(type or print)*	Date Signed
Arthur Heinz Jr.	Arthur Heinz, Jr., Director	11/3/88

United States Environmental Protection Agency
Washington, DC 20460

EPA Notification of Hazardous Waste Activity

Please refer to the *Instructions for Filing Notification* before completing this form. The information requested here is required by law *(Section 3010 of the Resource Conservation and Recovery Act)*

For Official Use Only

Comments

C C

Installation's EPA ID Number		Approved	Date Received (yr. mo day)
C F	T/A C 1		

I. Name of Installation

OLIN CORPORATION

II. Installation Mailing Address

Street or P.O. Box

C 3: PO BOX 278

City or Town	State	ZIP Code
C 4: MARION	IL	62959

III. Location of Installation

Street or Route Number

C 5: RT 148 S ORDILL P AREA

City or Town	State	ZIP Code
C 6: MARION	IL	62959

IV. Installation Contact

Name and Title *(last, first, and job title)*	Phone Number *(area code and number)*
C 2: HEINZ ART DIRECTOR	6189858211

V. Ownership

A. Name of Installation's Legal Owner	B. Type of Ownership *(enter code)*
C R: US DEPT OF INTERIOR	FP

VI. Type of Regulated Waste Activity *(Mark 'X' in the appropriate boxes. Refer to instructions.)*

A. Hazardous Waste Activity

- [X] 1a Generator
- [ ] 1b Less than 1,000 kg/mo.
- [ ] 2 Transporter
- [ ] 3 Treater/Storer/Disposer
- [ ] 4. Underground Injection
- [ ] 5. Market or Burn Hazardous Waste Fuel *(enter 'X' and mark appropriate boxes below)*
  - [ ] a Generator Marketing to Burner
  - [ ] b. Other Marketer
  - [ ] c Burner

B. Used Oil Fuel Activities

- [ ] 6. Off-Specification Used Oil Fuel *(enter 'X' and mark appropriate boxes below)*
  - [ ] a. Generator Marketing to Burner
  - [ ] b. Other Marketer
  - [ ] c. Burner
- [ ] 7. Specification Used Oil Fuel Marketer *(or On site Burner)* Who First Claims the Oil Meets the Specification

VII. Waste Fuel Burning: Type of Combustion Device *(enter 'X' in all appropriate boxes to indicate type of combustion device(s) in which hazardous waste fuel or off-specification used oil fuel is burned. See instructions for definitions of combustion devices.)*

- [ ] A. Utility Boiler
- [ ] B. Industrial Boiler
- [ ] C. Industrial Furnace

VIII. Mode of Transportation *(transporters only — enter 'X' in the appropriate box(es))*

- [ ] A. Air
- [ ] B. Rail
- [ ] C. Highway
- [ ] D. Water
- [ ] E. Other *(specify)*

IX. First or Subsequent Notification

Mark 'X' in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA ID Number in the space provided below.

- [X] A. First Notification
- [ ] B. Subsequent Notification *(complete item C)*

C. Installation's EPA ID Number

ID — For Official Use Only														
C													T/A	C
W														1

X. Description of Hazardous Wastes *(continued from front)*

A. Hazardous Wastes from Nonspecific Sources. Enter the four-digit number from 40 *CFR* Part 261.31 for each listed hazardous waste from nonspecific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	**8**	**9**	**10**	**11**	**12**

B. Hazardous Wastes from Specific Sources. Enter the four-digit number from 40 *CFR* Part 261.32 for each listed hazardous waste from specific sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	**20**	**21**	**22**	**23**	**24**
25	**26**	**27**	**28**	**29**	**30**

C. Commercial Chemical Product Hazardous Wastes. Enter the four-digit number from 40 *CFR* Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
P 1 0 5	U 0 2 1	U 0 3 1	U 1 0 2	U 1 0 7	U 1 1 2
37	**38**	**39**	**40**	**41**	**42**
U 1 2 2	U 1 3 3	U 1 5 9	U 1 6 1	U 1 9 6	U 2 0 1
43	**44**	**45**	**46**	**47**	**48**
U 2 2 0	U 2 2 1	U 2 3 9			

D. Listed Infectious Wastes. Enter the four-digit number from 40 *CFR* Part 261.34 for each hazardous waste from hospitals, veterinary hospitals, or medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. Characteristics of Nonlisted Hazardous Wastes. Mark "X" in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 — 261.24)*

[X] 1. Ignitable *(D001)* [X] 2. Corrosive *(D002)* [X] 3. Reactive *(D003)* [X] 4. Toxic *(D000)*

XI. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature	Name and Official Title *(type or print)*	Date Signed
Arthur Heinz, Jr.	Arthur Heinz, Jr., Director	11/3/88

jmb

United States Environmental Protection Agency
Washington, DC 20460

EPA Notification of Hazardous Waste Activity

Please refer to the *Instructions for Filing Notification* before completing this form. The information requested here is required by law *(Section 3010 of the Resource Conservation and Recovery Act)*

For Official Use Only

Comments

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Installation's EPA ID Number			Approved	Date Received (yr. mo. day)
C F	T/A	C 1		

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City or Town	State	ZIP Code
C 4 MARION	IL	62959

III. Location of Installation

Street or Route Number

C 5 RT 148 S ORDILL BDF AREA

City or Town	State	ZIP Code
C 6 MARION	IL	62959

IV. Installation Contact

Name and Title *(last, first, and job title)*	Phone Number *(area code and number)*
C 2 HEINZ ART DIRECTOR	618 985 8211

V. Ownership

A. Name of Installation's Legal Owner	B. Type of Ownership *(enter code)*
C R US DEPT OF INTERIOR	FP

VI. Type of Regulated Waste Activity *(Mark 'X' in the appropriate boxes. Refer to instructions.)*

A. Hazardous Waste Activity

- [X] 1a. Generator
- [X] 2. Transporter
- [ ] 3. Treater/Storer/Disposer
- [ ] 4. Underground Injection
- [ ] 5. Market or Burn Hazardous Waste Fuel *(enter 'X' and mark appropriate boxes below)*
  - [ ] a. Generator Marketing to Burner
  - [ ] b. Other Marketer
  - [ ] c. Burner
- [ ] 1b. Less than 1,000 kg/mo.

B. Used Oil Fuel Activities

- [ ] 6. Off-Specification Used Oil Fuel *(enter 'X' and mark appropriate boxes below)*
  - [ ] a. Generator Marketing to Burner
  - [ ] b. Other Marketer
  - [ ] c. Burner
- [ ] 7. Specification Used Oil Fuel Marketer *(or On site Burner)* Who First Claims the Oil Meets the Specification

VII. Waste Fuel Burning: Type of Combustion Device *(enter 'X' in all appropriate boxes to indicate type of combustion device(s) in which hazardous waste fuel or off-specification used oil fuel is burned. See instructions for definitions of combustion devices.)*

- [ ] A. Utility Boiler
- [ ] B. Industrial Boiler
- [ ] C. Industrial Furnace

VIII. Mode of Transportation *(transporters only — enter 'X' in the appropriate box(es))*

- [ ] A. Air
- [ ] B. Rail
- [X] C. Highway
- [ ] D. Water
- [ ] E. Other *(specify)*

IX. First or Subsequent Notification

Mark 'X' in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA ID Number in the space provided below.

- [X] A. First Notification
- [ ] B. Subsequent Notification *(complete item C)*

C. Installation's EPA ID Number

EPA Form 8700-12 (Rev. 11-85) Previous edition is obsolete

Continue on reverse

001310

ID — For Official Use Only													T/A	C
C														
W														1

X. Description of Hazardous Wastes *(continued from front)*

A Hazardous Wastes from Nonspecific Sources. Enter the four-digit number from 40 *CFR* Part 261.31 for each listed hazardous waste from nonspecific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F 0 0 1					
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19	**20**	**21**	**22**	**23**	**24**
25	**26**	**27**	**28**	**29**	**30**

C. Commercial Chemical Product Hazardous Wastes. Enter the four-digit number from 40 *CFR* Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
P 0 1 2	P 0 2 4	P 0 7 7	P 1 0 6	U 0 0 3	U 0 1 9
37	**38**	**39**	**40**	**41**	**42**
U 0 8 0	U 1 1 2	U 1 5 8	U 1 6 9	U 2 1 0	U 2 1 1
43	**44**	**45**	**46**	**47**	**48**
U 2 2 0	U 2 2 8	U 2 3 9			

D. Listed Infectious Wastes Enter the four-digit number from 40 *CFR* Part 261.34 for each hazardous waste from hospitals, veterinary hospitals, or medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. Characteristics of Nonlisted Hazardous Wastes. Mark "X" in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 — 261.24)*

☒ 1. Ignitable *(D001)* ☒ 2. Corrosive *(D002)* ☒ 3. Reactive *(D003)* ☒ 4. Toxic *(D000)*

XI. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature	Name and Official Title *(type or print)*	Date Signed
Arthur Heinz Jr.	Arthur Heinz, Jr., Director	11/3/88

EPA Form 8700-12 (Rev. 11-85) Reverse

gmt

001311

U.S. Department
of Transportation

Research and
Special Programs
Administration

400 Seventh Street, S.W.
Washington, D.C. 20590

November 12, 1982

Mr. David F. Spillane
Regulatory Liaison Officer
Olin Corporation, Winchester-Western Division
East Alton, Illinois 62024

Dear Mr. Spillane:

Based on the documentation submitted by Olin Corporation, Winchester-Western Division in accordance with Sections 173.86 and 173.114a, Title 49, Code of Federal Regulations, the new explosive products listed below are hereby classified as follows:

Reference	Product Designation	Description	Hazard Classification
EX-8211002	Incendiary Mix #68	High explosive	Class A explosive, Type 8
EX-8211003	Incendiary Mix #136 (RS41)	High explosive	Class A explosive, Type 8
EX-8211004	Incendiary Mix RS40	High explosive	Class A explosive, Type 8

Should you have any questions regarding these classifications, this office can be reached on (202) 472-5982.

Sincerely,

David E. Alexander for

James Enoch Jones
Chief, Approvals Branch
Office of Hazardous Materials
Regulation
Materials Transportation Bureau

001312

ASSOCIATION OF
AMERICAN RAILROADS
OPERATIONS AND MAINTENANCE DEPARTMENT · BUREAU OF EXPLOSIVES
RARITAN CENTER · BUILDING 817 · EDISON, NEW JERSEY 08817 · 201/225-1618

THOMAS A. PHEMISTER
Director

W. S. CHANG
Chief Chemist

3
GAC/bjz
October 8, 1982

Ms. Donna L. Sutherland
Mat'l Transportation Specialist
Olin Corporation
P.O. Drawer G
Marion, Illinois 62959

Dear Ms. Sutherland:

Reference your letter of September 16, 1982 requesting examination and classification of Incendiary Mixes #68, (136) (RS41), and RS40.

The material examined and detailed in our attached laboratory report No.(s) 68936-38 is recommended for description as High Explosive in accordance with Section 172.101 and for classification as Class A Explosive, Type 8 in accordance with Section 173.53(h) of the DOT Hazardous materials Regulations.

Required packaging, marking and labeling for surface transportation (rail and highway) may be found in Sections as follows:

A. Packaging - Section 173.65
B. Marking - Section 172.300 and 173.65(j)
C. Labeling - Section 172.411 Explosive A Label

Section 173.86 requires that, except for shipments of sample quantities, the shipper has to submit the test report to the Department of Transportation to apply for approval before any new explosive device is offered for shipment.

If we may be of further service, please advise.

Very truly yours,

W. S. Chang

W. S. Chang
Chief Chemist

Invoice BEL-427

001913

ASSOCIATION OF
AMERICAN RAILROADS
OPERATIONS AND MAINTENANCE DEPARTMENT · BUREAU OF EXPLOSIVES
RARITAN CENTER · BUILDING 817 · EDISON, NEW JERSEY 08817 · 201/225-1618

THOMAS A PHEMISTER
Director

W S CHANG
Chief Chemist

CHEMICAL LABORATORY REPORT

File Number 3
Laboratory Number 68937
Laboratory Date Oct.8,1982

REPORT OF EXAMINATION OF EXPLOSIVES

Manufacturer: Winchester Group/Olin Corporation

Address: East Alton, Illinois

Identification of sample: Incendiary Mix #136 (RS41)

Description and composition of sample: The sample was a grey powder said to have the composition of 49.0% Magnesium-Aluminum Alloy, Powdered, 49.0% Potassium Perchlorate and 2.0% Calcium Resinate.

Thermostability test 75° C/48h
- X Stable
- ___ Decomposed
- ___ Changed in appearance

No. 8 electric blasting cap test
- X Detonation (lead witness column deformed)
- ___ Explosion
- ___ Ignited and burned
- ___ Fragmented

Burning test (kerosene-soaked sawdust fire)
- X Burned rapidly without explosion
- ___ Burned moderately without explosion
- ___ Burned slowly without explosion
- ___ Exploded

Impact test: The sample consistently failed to explode or ignite in the Bureau of Explosives' Impact Apparatus under a drop height of 3 3/4".

DOT Description & Classification (recommended)

High Explosive
Class A Explosive, Type 8

W. S. Chang
Chief Chemist

001214

ENERGY SYSTEMS DIVISION
MATERIALS SAFETY EVALUATION LABORATORY
MATERIAL SAFETY EVALUATION REPORT

Sample Code API mix 136 Document No. HE-3-75[illegible]

Date 2-21-75

D. Safety Test Results

1. Impact Sensitivity: Fires/Trials 0/10 @ 87 cm.
   Bureau of Mines
   ____/____ @____ cm.
2. Five Second Autoignition: 467+ °C, Ten trials.
3. Electrostatic Sensitivity:
   Fires/Trials 0//10 @ .8 Joules
4. 75°C Thermal Stability: not run
5. Strip Friction: Fires/Trials 0/10 @ 13 lbs.
6. Susceptibility to Detonation: No. 8 Blasting Cap
   Loose Mix Amount 1 lb

Test Number	Exploded Yes	Exploded No	Burned Yes	Burned No
I	X			
II	X			
III				

7. Deflagration to Detonation - Bulk Test with Electric Squib.
   Amount 1 lb

Test Number	Exploded Yes	Exploded No	Burned Yes	Burned No	Initiation Aid Yes	Initiation Aid No.
I		X		X		X
II		X	X		X	
III						

8. Card Gap Test: Detonations/ Trials ____/____ @____cards.
   ____/____ @____cards.

9. Toxicity Data: Potassium perchlorate - mild irritant

Calcium resinate - unknown

10. Comments: _____

Test Engineer _____

E. Safety Committee Hazard Evaluation

Production Classification: Type red line (per Document HEC-1)

Military Classification: Class 7

Shipping Classification: Class _____

Description _____

Approved: _____ 7/21/75
Date

_____ 7/21/75
Date

_____
Date

ATTENTION - THIS IS AN UNCONTROLLED DOCUMENT WITH RESTRICTED USAGE.
USER IS CAUTIONED TO CHECK WITH DOCUMENT CONTROL FOR LATEST APPLICABLE REVISION.

ISSUE DATE MAY 19 1982 FOR:
CHECK INFO
BID P.O. B7548270

SYM	DESCRIPTION	DATE	APPROVAL
A	←	4-17-68	
B	REDRAWN AND REVISED, WAS "X" SIZE. EO-LCA 5008.	6-15-53	
C	CHGD: % DRY WEIGHT, 49.0 ± 2.5 WAS 50.0 ± 2.5. ADDED CALCIUM RESINATE UNDER INGREDIENTS. EO-LCA-5080	3-23-61	
D	(1-4) EO-LCOP-5655	8-9-63	
E	(1-2) EO-LC-6177	4-14-72	
F	(1-2) EO-LC-6225	9-19-73	
G	(1) EO-LC-6229	1-14-74	
H	NOR ABS 2005/781102.	790423	

INGREDIENTS — CHEMICAL ANALYSIS % DRY WEIGHT

MAGNESIUM-ALUMINUM ALLOY, POWDERED, SPEC JAN-M-454, TYPE A. . . . . 49.0 ± 2.5

(D1) POTASSIUM PERCHLORATE, SPEC MIL-P-217, GRADE A, CLASS 3. PARTICLE SIZE OF POTASSIUM PERCHLORATE MAY BE AS SPECIFIED IN NOTE 2. . . . 49.0 ± 2.5 (C)

(F1) CALCIUM RESINATE, SPEC MIL-C-20470, TYPE I . . . 2.0 ± .25

(D2) NOTES:

1. SPEC MIL-A-2550 AND ANSI Y14.5-1973 APPLY.

(F2) 2. PARTICLE SIZE OF POTASSIUM PERCHLORATE MAY BE AS FOLLOWS:

(G1)

U.S. STANDARD SIEVE NO.	PER CENT BY WEIGHT ON MINIMUM	MAXIMUM
100	0	2
140	30	60
200	–	–
PAN	0	20

(E2)

3. INCENDIARY MIX SHALL NOT BE OFFERED FOR TRANSPORTATION EXCEPT AS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION AND/OR ICC REGULATIONS.

NOTICE: THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

DARCOM HAZARD CLASSIFICATION 1.1
STORAGE COMPATIBILITY GROUP C CLASS A
DEPARTMENT OF TRANSPORTATION (DOT) HAZARD CLASS EXPLOSIVE
DOT MARKINGS HIGH EXPLOSIVES—DANGEROUS
INTRA-PLANT SHIPMENT ONLY

U S ARMY ARMAMENT RESEARCH AND DEVELOPMENT COMMAND
DOVER, NEW JERSEY 07801

(D4) CODE IDENT NO. ~~[illegible]~~
PART NO. 7548270

CODE IDENT NO. 19200

7238806

MIX, INCENDIARY #136

~~ORDNANCE CORPS~~
~~DEPT OF THE ARMY~~
~~[illegible]~~

B 7548270
SHEET 1 OF 1

(E1) (D3)

001318

HAZARDOUS WASTE FACILITY CLOSURE PLAN

ORDILL INDUSTRIAL AREA

S.O.P. 90,356 REV. K 9/88

INTRODUCTION

This closure plan identifies all steps that will be necessary to provide final closure for various waste storage buildings which are located in the Ordill Industrial Area of Crab Orchard Wildlife Refuge in rural Williamson County, Illinois. These facilities are operated by Olin Corporation and are owned by the U.S. Department of the Interior. This Closure Plan includes those requirements per 35 Ill. Adm. Code 725 Subparts G and H. The U.S. EPA I.D. Number for this facility is ILS143609487. The corresponding Illinois EPA I.D. Number is 1998620013.

Olin Corporation will maintain an onsite copy of the approved closure plan and all revisions to the plan until the certification of closure completeness has been submitted and accepted by the EPA. Olin will notify the appropriate Agency Administrator at least 180 days prior to the date final closure is expected to begin. The closure date for closure of the facilities will be the date 2015. Upon completion of closure, Olin will submit to the appropriate Agency Administrator a certification by both the authorized Olin representative and by a local independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

001019

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3.0	FINAL CLOSURE ACTIVITIES	3
4.0	FACILITY CONDITIONS	4
5.0	INVENTORY REMOVAL	6
6.0	DECONTAMINATION PROCEDURES	6
7.0	FACILITY STATUS UPON CLOSURE	7
8.0	SCHEDULE FOR CLOSURE	7
9.0	EXTENSION FOR CLOSURE TIME	7
10.0	POST CLOSURE PLANS	7
11.0	CLOSURE COST ESTIMATE	8
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4	CLOSURE SCHEDULE	56
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1.0 PURPOSE

The purpose of this Hazardous Waste Management Facility Closure Plan is to:

1.1 Comply with EPA regulations and Olin Corporation policies;

1.2 Comply with the "Closure Performance Standard", i.e. these facilities will be closed in a manner that:

1.2.1 No further maintenance will be required; and

1.2.2 Threats to human health and the environment will be controlled, minimized or eliminated, and

1.3 Provide information, procedures, schedules, and cost estimates concerning closure of this facility.

2.0 SCOPE

This closure plan applies to hazardous waste storage buildings for the Ordill Industrial Area Hazardous Waste Management Facility located in rural Williamson County near Marion, Illinois which is operated by Olin Corporation and owned by the U.S. Department of Interior.

3.0 FINAL CLOSURE ACTIVITIES

Olin expects to perform final closure for buildings and hazardous waste associated with waste storage buildings. This closure plan therefore includes the appropriate and required information for proper final closure of buildings 13-1-14, 13-2-14, 13-6-14, 13-3-9, 13-3-10, and 13-3-13. Refer to Section 8.0 for the associated schedule of closure.

4.0 FACILITY CONDITIONS

4.1 Facility Description

Olin Corporation operates industrial facilities leased from the U.S. Government, Fish and Wildlife Department, in the Ordill Industrial Area formerly the U.S. Army Ordnance facilities near the city of Marion, rural Williamson County, Illinois. Various propellants, pyrotechnic devices, small, medium and large caliber ammunition, and gas generator solid propellant propulsion devices, typical examples of products, are developed and manufactured at this location for the U.S. Department of Defense and for export to foreign governments.

As an adjunct to the development and manufacturing operations described above, Olin also owns and operates a Test Range and Waste Thermal Treatment facility located near the city of Marion in rural Williamson County, Illinois. This facility provides the capability to ballistically test the various munition products and to treat explosive wastes generated from the various operations.

SIC codes that apply to Olin Corporation in Marion, Illinois are 3482 (Small Arms Ammunition) and 3489 (Ordnance and Accessories, not elsewhere classified).

4.2 Waste Management Units Description

This closure plan applies to Olin's hazardous waste management storage facility located in the Ordill Industrial Area. The waste management storage facility is located on the U.S. Crab Orchard Fish and Wildlife Refuge which is a rural area. The topography consists of flat grass land and some trees.

The waste management facility consists of several waste storage buildings with an EPA Process Code "S01" for 300,000 gallons. (Reference: 10 November 1980 Olin RCRA Part A application.)

The active storage buildings subject to final closure consist of buildings 13-1-14, 13-2-14, 13-6-14, 13-3-9, 13-3-10, and 13-3-13. Hazardous wastes potentially stored in these buildings include explosive waste. Therefore, the waste is either ignitable (EPA No. D001) or reactive (EPA No. D003). Waste is stored in DOT approved containers. Refer to Section 4.6 for additional information concerning waste types. These buildings are 25 feet by 60 feet each and are totally enclosed with access by one steel door. The buildings are military type cement bunkers and covered on all sides but one with dirt.

The roof and walls are of reinforced cement two feet in thickness. The floors consist of poured cement. There is a vent in the roof and door.

The waste buildings are utilized "when necessary" for waste storage. The time period of use for each is as follows:

13-1-14	Nov. 1981	to present
13-2-14	Aug. 1982	to present
13-6-14	Oct. 1981	to present
13-3-9	Feb. 1982	to present
13-3-10	Aug. 1982	to present
13-3-13	Nov. 1981	to present

4.3 Map of Facility

Refer to Attachment 1 for maps of the facility.

4.4 Plan View

Refer to Attachment 2 for drawings of the facility.

4.5 Storage Area Pavement Description

All of the storage floors are of poured cement. The dock/loading areas also have cement platforms. The roads are stone covered. There are minimal hairline surface cracks.

There are no curbs or dikes within the storage buildings 13-1-14, 13-2-14, 13-6-14, 13-3-9, 13-3-10, and 13-3-13. The cement walls may be considered to act as a curb.

The wastes stored are generally solids. In addition, due to the amount of any waste in any one container, a spill would be contained within the buildings. The wastes are stored in liners and/or other secure inner containers, within DOT approved shipping containers on wood or wood pallets.

4.6 List of Hazardous Waste

Refer to Attachment 3 for a complete, detailed list of hazardous wastes which could be stored in buildings 13-1-14, 13-2-14, 13-6-14, 13-3-9, 13-3-10, 13-3-13. The maximum inventory at any one building is 10,000 gallons.

5.0 INVENTORY REMOVAL

Since buildings 13-1-14, 13-2-14, 13-6-14, 13-3-9, 13-3-10 and 13-3-13 are designated to store only explosive wastes (EPA HW No. D001 and D003), any remaining explosive waste at the time of closure will be manifested, transported, and treated at the Olin Thermal Treatment Facility (ILD000802801). The waste haulers are required to wear safety shoes and safety glasses during the loading/unloading operation.

6.0 DECONTAMINATION PROCEDURES

After the waste inventory is removed from buildings 13-1-14, 13-2-14, 13-6-14, 13-3-9, 13-3-10, and 13-3-13 each floor shall be swept with a broom and any debris collected in a lined container for each building. Personnel shall be required to wear safety shoes and safety glasses.

A sample of the debris from each building will be collected as a grab sample and analyzed by an approved laboratory for the presence of oils and nitrates, and the EPA characteristic of ignitability in accordance with current EPA approved test methods. These are indicator parameters common to most of the explosive wastes placed in storage. If the results are positive, the debris shall be packaged as explosive waste and transported to Olin's thermal treatment facility. If the results are negative, additional tests will be conducted as follows.

13-3-13	Lead (Total), Asbestos
13-1-14	Lead (Total), Barium (Total), Chromium (Total)

The waste shall be sent as special waste to an approved treatment or disposal facility.

In addition, the floors will be mopped with a minimal amount of detergent and hot water and allowed to air dry. This shall be repeated three times. The floors shall then be mopped with water only. A sample of the final rinse water shall be collected with a colisowa in order to obtain a representative sample. The sample shall be tested for the same parameters as previously indicated. The floors will be rewashed if the analysis indicates contamination is present.

The wash and rinse water will be collected in a container and a sample collected with a colisowa. The sample will be analyzed for the same parameters as previously indicated and sent as a special waste to an approved treatment facility. The cleaning process will be repeated if these results are positive. All cleanup water and mop heads shall be placed in lined containers.

7.0 FACILITY STATUS UPON CLOSURE

Building	Status Upon Complete Closure
13-1-14	The facility will be exempt from treatment, storage, and disposal (TSD) regulation under RCRA.
13-2-14	Same
13-6-14	Same
13-3-9	Same
13-3-10	Same
13-3-13	Same

8.0 SCHEDULE FOR CLOSURE

Within 90 days after receipt of the final volume of hazardous wastes, or 90 days after approval of the closure plan, if that is later, final closure activities will be initiated. Completion of final closure will be within 180 days of this occurrence. The closure date for final closure of the facilities will be the date 2015. The appropriate EPA administrator will be notified by Olin 180 days before final closure is expected to begin. The proposed schedule for final closure is indicated in Attachment 4.

Final closure will be inspected and then certified by a registered professional engineer. The engineer will be required to perform at least one inspection for each storage building. Olin personnel will supervise final closure and also provide certification upon the completion of final closure.

9.0 EXTENSION FOR CLOSURE TIME

It is anticipated that Olin Corporation will not require an extension for closure time.

10.0 POST CLOSURE PLANS

Post closure care should not be needed for these storage buildings because they are not disposal facilities.

11.0 CLOSURE COST ESTIMATE

The closure cost estimates are presented by activities as indicated on Attachment 5 with a total cost estimate provided.

This closure cost estimate will be kept on file at Olin Corporation. It will be revised whenever a change in the closure plan affects the cost of closure. It will be adjusted annually within 30 days of the fiscal year to reflect changes in closure cost brought about by inflation. The Department of Commerce's Annual Implicit Price Deflator for Gross National Product, as published by the U.S. Dept. of Commerce in its monthly publication "Survey of Current Business", will be used to make this adjustment.

Financial demonstration is prepared by Olin's Chemical Group, Environmental Affairs Dept. located at Stamford, CT., for the Corporation.

CLOSURE PLAN PREPARED BY:

J. Schneiderman
Regulatory Compliance Supervisor
Olin Corporation, Marion, IL.

9/22
Date

Closure Plan

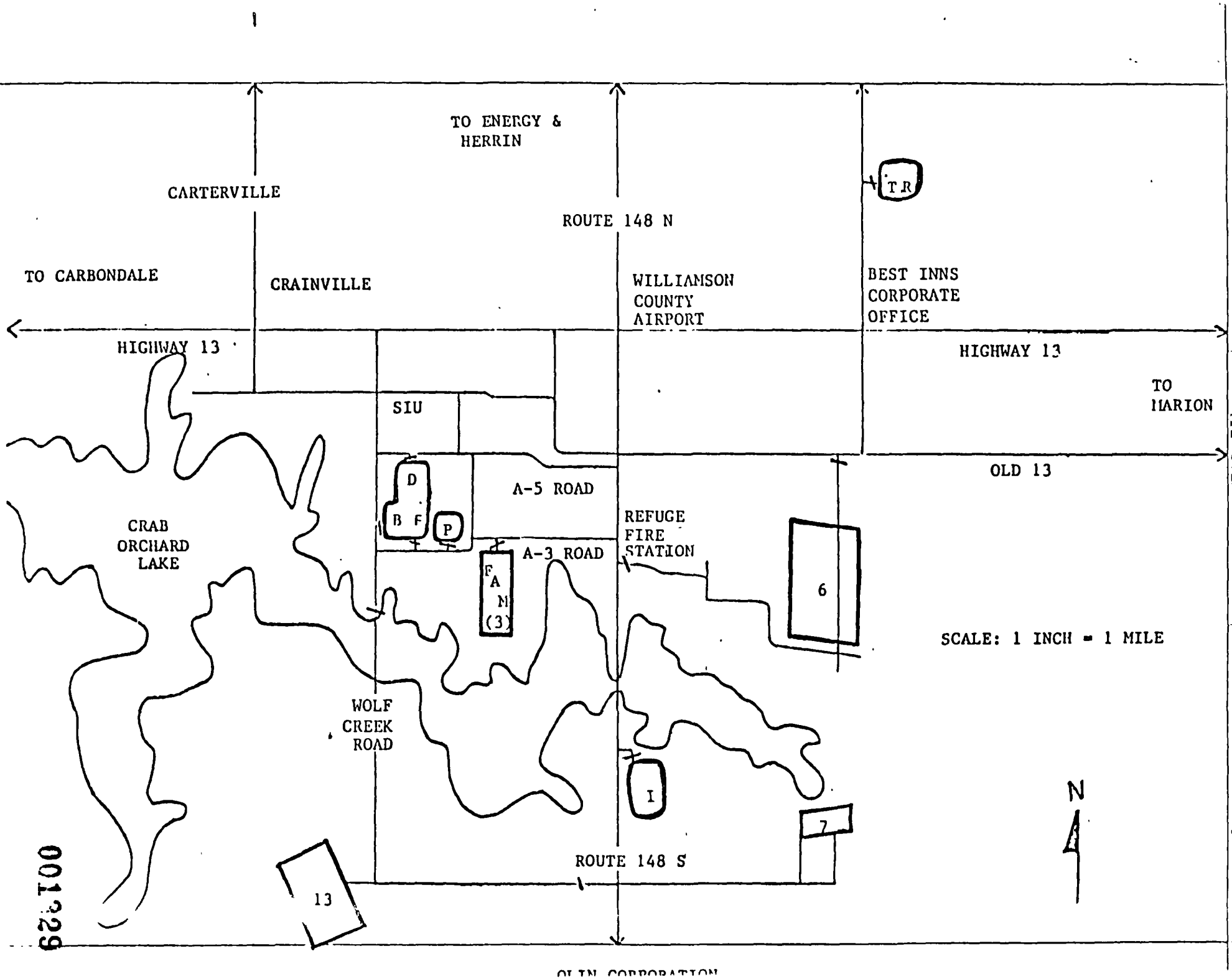
Certification Statement

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

IL8143609487	Olin Corporation, Ordnance Products, Marion, IL
USEPA ID Number	Facility Name
Arthur Heinz, Jr.	Arthur Heinz, Jr., Director
Signature of Owner/Operator	Name and Title
Oct. 4, 1988	
Date	

ATTACHMENT 1

FACILITY MAPS


TO ENERGY &
HERRIN
CARTERVILLE
ROUTE 148 N
TR
TO CARBONDALE
CRAINVILLE
WILLIAMSON
COUNTY
AIRPORT
BEST INNS
CORPORATE
OFFICE
HIGHWAY 13
HIGHWAY 13
TO
MARION
SIU
OLD 13
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A-5 ROAD
REFUGE
FIRE
STATION
CRAB
ORCHARD
LAKE
A-3 ROAD
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A
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(3)
6
SCALE: 1 INCH = 1 MILE
WOLF
CREEK
ROAD
I
7
N
ROUTE 148 S
13
001229
OLIN CORPORATION
MAP OVERVIEW
Page 11 of 57

CRAB ORCHARD NATIONAL WILDLIFE REFUGE

JACKSON, UNION, AND WILLIAMSON COUNTIES, ILLINOIS

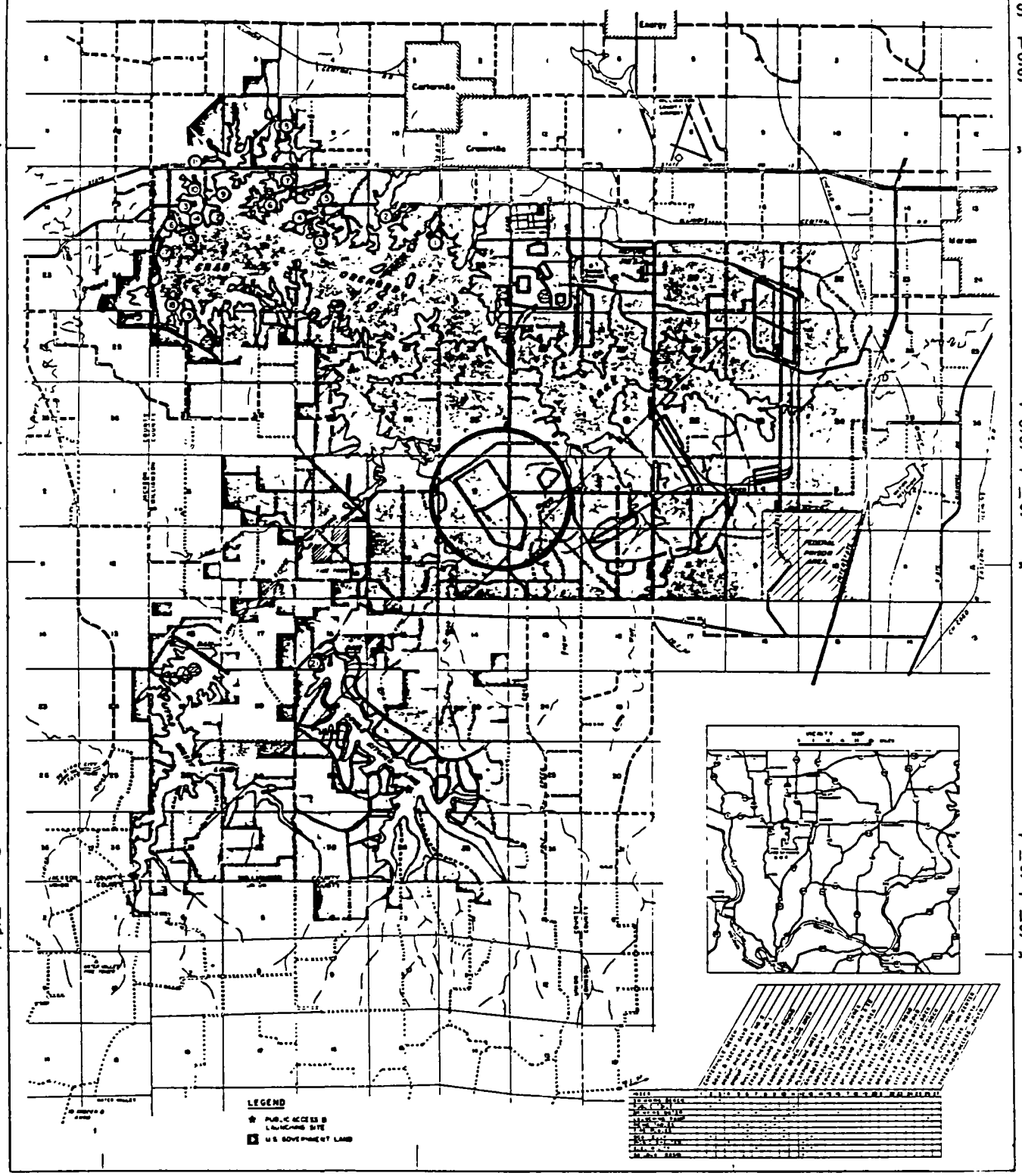
UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

89° 10' R1W R1E

R1E R2E 89°00'

MAP OVERVIEW



89° 10' R1W R1E

R1E R2E 89°00'

COMPILED IN THE BRANCH OF ENGINEERING FROM OFFICIAL RECORDS IN THE FILES THEREOF AND COUNTY MAPS FROM THE STATE OF ILLINOIS

MINNEAPOLIS, MINNESOTA

JAN 1962
REV JAN 1969

THIRD PRINCIPAL MERIDIAN

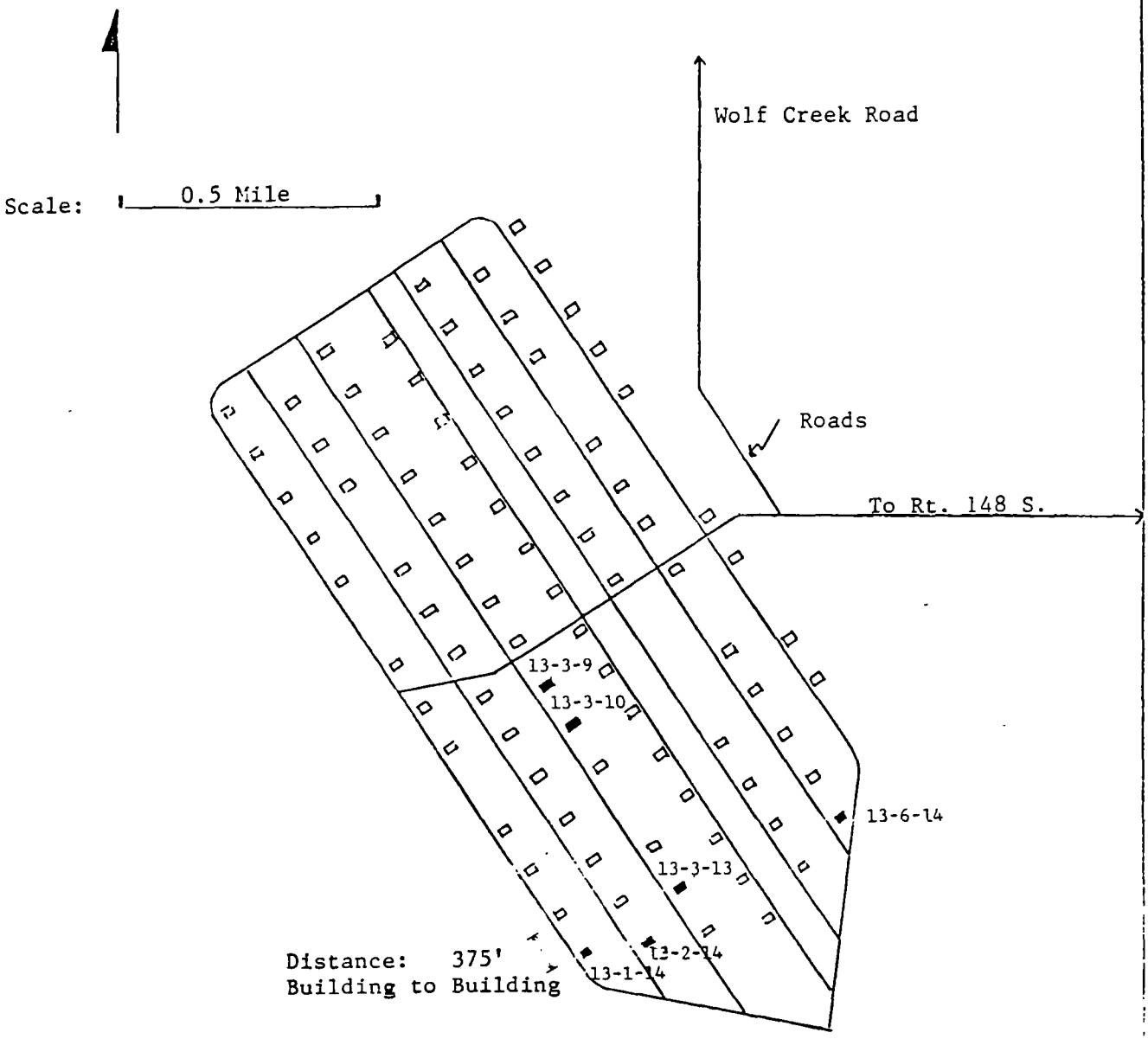
Scale

TOWNSHIP DIAGRAM

MEAN DECLINATION 1960

001330

AREA 13



Waste Storage Buildings:

13-1-14	13-3-9
13-2-14	13-3-10
13-6-14	13-3-13

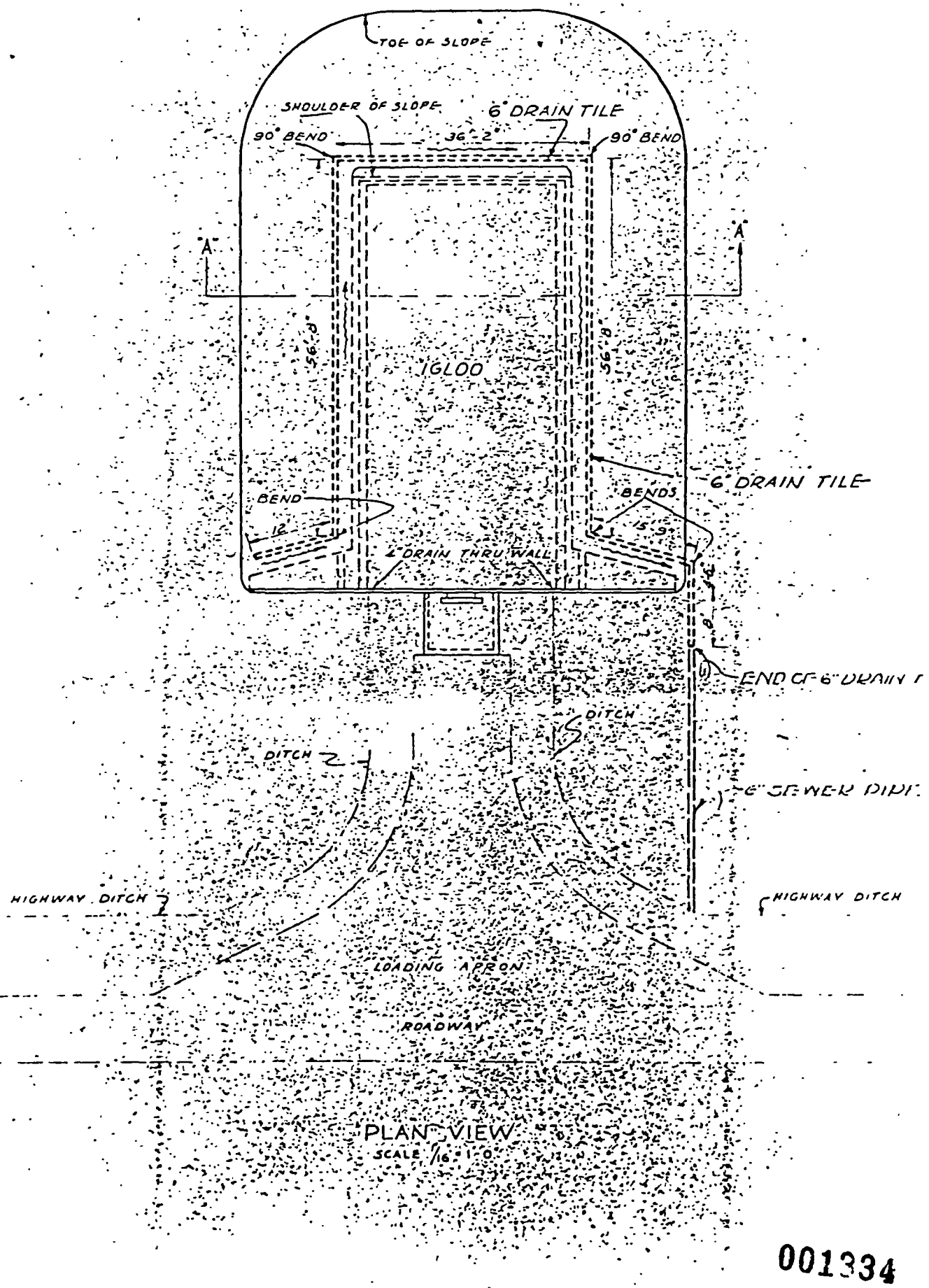
Dimensions: 25' X 60'

ATTACHMENT 2

FACILITY DRAWINGS

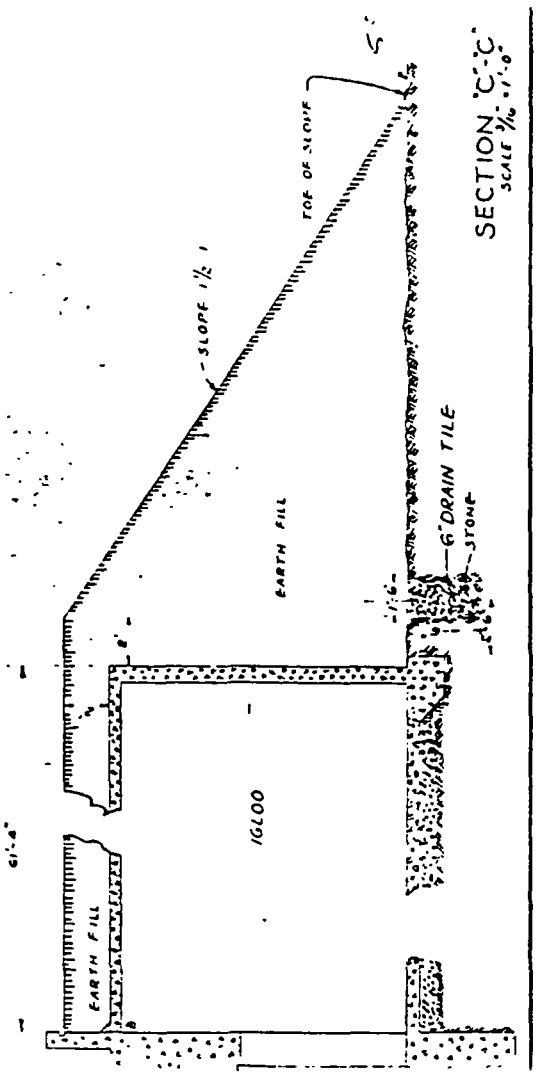
TYPICAL
MILITARY
BUNKER
CONSTRUCTION

001233



PLAN VIEW
SCALE 1/16" = 1'-0"

001334


SECTION 'C-C'
SCALE 1/8" = 1'-0"
SLOPE 1½ : 1
TOE OF SLOPE
EARTH FILL
6" DRAIN TILE
STONE
IGLOO
EARTH FILL

ATTACHMENT 3

This attachment includes the hazardous waste characterization of wastes that may be stored in buildings 13-1-14, 13-2-14, 13-6-14, 13-3-9, 13-3-10, and 13-3-13. In addition, included is a list of hazardous wastes that were in storage in the past but no longer authorized for storage.

ATTACHMENT 3 (CONT)

Hazardous wastes stored previously in 13-1-14, 13-2-14, 13-6-14, 13-3-9, 13-3-10 and 13-3-13, but no longer authorized for storage in these buildings.

HAZARDOUS WASTE	EPA HW NO.	BLDG. NO.
4,4 Methylenebis 2 chloroaniline	U158	13-3-13
Toluenediamine	U221	13-3-13
Lead Beta Resorcylate	D008	13-3-13
Barium Carbonate	D005	13-1-14
Lead Thiocyanate	D008	13-1-14
Toluene	U220	13-1-14
Acetone	U002	13-1-14
Trichloroethylene	F001	13-1-14
Potassium Dichromate	D007	13-1-14
Ethyl Alcohol	D001, F005	13-1-14
Toluene/Xylene	U220	13-1-14
Toluene Diisocyanate	U223	13-1-14
Red Lead	D008	13-1-14
Methyl Ethyl Ketone	F005	13-1-14
Epichlorohydrin Mixture	D001	13-1-14
Asbestos	Delisted	13-3-13

AUTHORIZED EXPLOSIVE WASTE LIST
COMPUTER PROGRAM INFORMATION

COLUMN HEADING	EXPLANATION
OLIN	Olin Code assigned to each waste item. "I" and "R" indicate the thermal treatment device.
WASTE	Waste common name. If oil or water is in parenthesis, oil or water must be added to the waste.
MQTY	Maximum number of items per half gallon container. Generally "R" retort wastes.
MNEW	Maximum net explosive weight in pounds in each inner container. generally "I" wastes.
SHIP: NAME	DOT Proper Shipping Name required on bulk waste label.
HAZCL	DOT Hazard Class.
PACKAGE	DOT approved bulk container.
LABEL	DOT labels required on bulk container.
MARKING	DOT marking required on bulk container by label or stencil. Minimum 1/2 inch high letters. (Or Olin designated marking.)
UN:NA	DOT identification number which must be marked on bulk container if assigned. Generally Class A, B, and C explosives have no identification number.
DOD:CL	DOD hazard classes.
COMP.	DOD storage compatibility group which must be marked on bulk container waste label.
EPA NO.	EPA waste code number which must be marked on operating record form.

NO. 00001
/88

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
	1001	HEI SLURRY/FILTERS (WATER)	10		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
1	1002	HEI POWDER/PELLETS (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
32	1003	HEI BLEND (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
033	1004	HEI CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
034	1005	API MIX #136 (RS41) (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
035	1006	API MIX #68 (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
036	1007	API MIXES #68 & #136 (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
037	1008	API CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
038	1009	RDX (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
039	I010	RDX CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
040	I011	SODIUM PICRATE (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
041	I012	SODIUM PICRATE CONTAMINATED MTL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
042	I013	TRACER MIX R505 (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
043	I014	TRACE IGNITER MIX I-547 (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
044	I015	TRACE IGNITER MIX I-548 (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
045	I016	TRACE MIXES (OIL AND/OR WATER)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
046	I017	TRACE CONTAMINATED MATERIAL	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
047	I018	BLACK POWDER (OIL)	0.5		BLACK POWDER	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	THIS SIDE UP (ON TOP) BLACK POWDER	NONE	1.1	D	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
048	1019	BLACK POWDER CONTAMINATED MATL	1		BLACK POWDER	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	THIS SIDE UP (ON TOP) BLACK POWDER	NONE	1.1	D	D003
049	1020	IB-27 IGNITER MIX (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
050	1021	IB-43 IGNITER MIX (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
051	1022	IB-50 IGNITER MIX (OIL)	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
052	1023	IB-51 IGNITER MIX (OIL)	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
053	1024	IB-52 IGNITER MIX (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
054	1025	IS-102 IGNITER MIX (OIL)	1		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
055	1026	IB-52 IGNITER PELLETS (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
056	1027	IGNITER MIX CONTAMINATED MATL	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
057	1028	FLUID BALL POWDER TYPE A (OIL)	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	C	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
058	1029	FLUID BALL POWDER TYPE B (OIL)	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	C	D003
059	1030	20MM PROPELLANT (OIL OPT)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
060	1031	25MM PROPELLANT (OIL OPT)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
061	1032	30MM PROPELLANT (OIL OPT)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
062	1033	40MM PROPELLANT (OIL OPT)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
063	1034	PROPELLANT CONTAMINATED MATL	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
064	1035	PROPELLANT FLOOR SWEEPINGS (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
065	1036	18-27 ONE # MOTOR PADS (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
066	1037	16-102 ONE # MOTOR PADS (OIL)	1		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
067	1038	MM IGNITER PADS (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
068	I039	TRIDENT IGNITER PADS (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
069	I040	MXU-4A/A BOOSTER/STNR PADS (OIL)	1.5		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
070	I041	MXU-4A/A GRAINS	35		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
071	I042	TRIDENT GRAINS	35		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
072	I043	MINUTEMAN GRAINS	35		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
073	I044	AN-DOUBLE-BASE GRAINS	35		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
074	I045	N-28 PROPELLANT GRAINS	35		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
075	I046	AN AND/OR N-28 PROPELLANT	35		FLAMMABLE SOLID, N.O.S	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
076	I047	ALUMINUM POWDER	2		ALUMINUM, METALLIC, POWDER	FLAMMABLE SOLID	FIBERBD BOX, DRUM	FLAMMABLE SOLID		UN1396	1.4	L	D003
077	I048	MAGNESIUM POWDER	2		MAGNESIUM METAL	FLAMMABLE SOLID	FIBER DRUM	FLAM.SD., DANG.WHEN WET		UN1869	1.3	L	D003
078	I049	ALUMINUM/MAGNESIUM POWDER	2		MAGNESIUM ALUMINUM POWDER	FLAMMABLE SOLID	FIBER DRUM	FLAM.SD., DANG.WHEN WET		UN1869	1.3	L	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
079	I050	BARIUM NITRATE	5		BARIUM NITRATE	OXIDIZER	FIBER DRUM	OXIDIZER		UN1446	1.4	L	D001
080	I051	POTASSIUM PERCHLORATE	1		POTASSIUM PERCHLORATE	OXIDIZER	21C	OXIDIZER		UN1489	1.3	L	D001
081	I052	STRONTIUM NITRATE	5		STRONTIUM NITRATE	OXIDIZER	FIBER DRUM	OXIDIZER		UN1507	1.4	L	D001
082	I053	STRONTIUM PEROXIDE	2		STRONTIUM PEROXIDE	OXIDIZER	21C	OXIDIZER		UN1509	1.3	L	D001
083	I054	AMMONIUM NITRATE	5		AMM. NITRATE(NO ORGANIC COATING)	OXIDIZER	FIBER DRUM	OXIDIZER		UN1942	1.3	D	D001
084	I055	AMMONIUM PERCHLORATE	1		AMMONIUM PERCHLORATE	OXIDIZER	21C	OXIDIZER		UN1442	1.3	D	D001
085	I056	GUANIDINE NITRATE	5		GUANIDINE NITRATE	OXIDIZER	FIBER DRUM	OXIDIZER		UN1467	1.4	L	D001
086	I057	POTASSIUM NITRATE	5		POTASSIUM NITRATE	OXIDIZER	FIBER DRUM	OXIDIZER		UN1486	1.4	L	D001
087	I058	AMMONIUM DICHROMATE	5		AMMONIUM DICHROMATE	OXIDIZER	21C	OXIDIZER		UN1439	1.4	L	D001
088	I059	POTASSIUM CHLORATE	1		POTASSIUM CHLORATE	OXIDIZER	21C	OXIDIZER		UN1485	1.3	D	D001
089	I060	ZIRCONIUM HYDRIDE	1		ZIRCONIUM HYDRIDE	FLAMMABLE SOLID	15A, 37A, 21C	FLAM.SD., DANG.WHEN WET		UN1437	1.3	L	D003
090	I061	EMPTY CONTAMINATED CONTAINERS	0.5		AS APPROPRIATE	AS APPROP		AS APPROP	AS APPROPRIATE	APPROP	ANY	ANY	ANY
091	I062	TEGDN CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
092	I063	SMOKE MIX-LUU-10/B	5		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MOTY	MNEW	SHIP;NAME	HAZCL	PACKAGE	LABEL	MARKING	UN;NA	DOD;CL	COMP	EPA
093	I064	FIRST FIRE-LUU-10/B		S	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
094	I065	LUU-10/B CONTAMINATED MATERIAL		1	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
095	I066	SMOKE CANDLE-LUU10/B		10	SMOKE SIGNAL	CLASS C EXPLOSIVE	15A, 12B	EXPLOSIVE C	SMOKE SIGNALS, HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.3	C	D003
096	I067	DINITROPHENOXY ETHANOL		1	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
097	I068	NITROCELLULOSE WET		1	NTROCLS,WET W/NO LES THAN 20% WR	FLAMMABLE SOLID	15A, 37A	FLAMMABLE SOLID		NA2555	1.3	D	D001
098	I069	I-508 IGN MIX (OIL) M17 TRACER		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
099	I070	R-284 TRACER COMP (OIL) M17 TRCR		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
100	I071	R-256 TRACER COMP (OIL) M17 TRCR		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
101	I072	50 CAL M17 TRACER MIXES (OIL)		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
102	I073	50 CAL M17 TRCR MX OIL/SAWDUST		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
103	I074	50 CAL M17 MIXES/CORNCOB MEAL	1		PROPELLANT EXPLOSIVE	CLASS A EXPLO SIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
104	I075	COMP A-4 (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLO SIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
158	I076	AN AND/OR N28 PROP CONTAM MATL	35		FLAMMABLE SOLID, N.O.S.	FLAMM ABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
159	I077	50 CAL PROP CONT MATL(WC860/IMR	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLO SIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
160	I078	R284CF TRACER COMP (OIL)(50 SLAP	.5		*HIGH EXPLOSIVE	CLASS A EXPLO SIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
161	I079	R284CF TRACER COMP. CONTAM MATL	1		*HIGH EXPLOSIVE	CLASS A EXPLO SIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
105	I080	RS 40 (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLO SIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
106	I081	ZIRCONIUM PDR (WATER OR ANTIFRZ)	1		ZIRCONIUM METAL, WET	FLAMM ABLE SOLID	15A	FLAMMABLE SOLID		UN1358	1.3	L	D001
107	I082	50 CAL MPC PROP	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLO SIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
108	I083	50 CAL M17 PROP (IMR 50-10)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLO SIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003

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AUTHORIZED EXPLOSIVE WASTES-OLIN7MO7RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
109	I084	50 CAL CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
118	I085	AMMONIUM NITRATE (OC)	5		AMM. NITRATE (ORGANIC COATING)	OXIDIZER	FIBER DRUM	OXIDIZER		NA1942	1.3	D	D001
119	I086	COMP A-4 CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
120	I087	R-528 TRACE MIX (OIL)(5.56MM)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
121	I088	R-528 TRACE MIX/OIL(VAC)(W DFLR)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
122	I089	I-136 IGNITER MIX (OIL)(5.56)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
123	I090	I-194 IGNITER MIX (OIL)(5.56)	0.5		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.1	G	D003
124	I091	COB MEAL/TRACE & IGN MIX(556)	1.0		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
125	I092	TRACE MIX CONTAMINATED MTL(5.56)	1		HIGH EXPLOSIVES	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
126	I093	120MM COMBUSTIBLE CASES/ADAPTOR)	35		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
127	I094	IGNITER MIX CONTAM. MTL.(5.56)	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
128	I095	PBXN-5 POWDER/PELLETS (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
129	I096	PBXN-5 CONTAMINATED MTL	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
130	I097	PBXN-5 PWDR/WATER/SWD UST(VAC,OIL	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
139	I098	ZIRCONIUM SPONGE	1.0		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	L	D001
141	I099	120MM PROPELLANT	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
142	I100	120MM PROPELLANT CONTAM. MATL.	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVE (SOLID), CLASS B	NONE	1.3	C	D003
143	I101	50 CAL M17 TRACER MXS CONT. MATL	1.0		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
144	I102	MTV TRACER PLTS TYPE I (OIL)	1.0		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	G	D003
145	I103	MTV TRACER IGN. PLTS TYPIII(OIL)	1.0		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	G	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MQ/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
146	1104	API MIX #68 (OIL,WOODFLR) (VAC)		0.5	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	CLASS A EXPLOSIVE	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
147	1105	API MIX #136(OIL, WOODFLR)(VAC)		0.5	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	CLASS A EXPLOSIVE	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
148	1106	API OR TRACE MXS/ISOPROPYL ALCOH		0.5	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	CLASS A EXPLOSIVE	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
149	1107	WI-2 TRACER MIX (OIL)		0.5	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.3	G	D003
150	1108	WI-2 TRACER MIX CONTAM. MATL.		1	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.3	G	D003
151	1109	CALCIUM RESINATE		1	CALCIUM RESINATE	FLAMMABLE SOLID	15A, 37A	FLAMMABLE SOLID		UN1313	1.3	L	D001
152	1110	I-276F IGN MX (OIL) (50 CAL SLAP		0.5	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
153	1111	IGN MX CONTAM MATL (50 CAL SLAP)		1	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
154	1112	BKNO3 IGNITION PELLETS		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	12H, 21C	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	G	D003
155	1113	SPI-2 IGNITER (OIL)		0.5	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
156	I114	IB-17 IGNITER MIX (OIL)		0.5	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	C	D003
157	I115	TMETN CONTAMINATED MATERIAL		1	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
163	I116	TEGDN/TMETN CONTAMINATED MATL		1	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
174	I117	SPI-2 IGNITER MIX CONTAM. MATL.		1	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	C	D003
175	I118	IB-17 IGNITER MIX CONTAM. MATL.		1	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	C	D003
001	R001	20MM CART. CASES, EMPTY, PRIMED	25	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
002	R002	20MM PRIMERS(OIL)	1000	0.43	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.2	B	D003
003	R003	20MM HEI PROJECTILES	60	2.77	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
004	R004	20MM HEI-T PROJECTILES	60	3.07	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
005	R005	20MM HEIT-SD PROJECTILES	60	3.07	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
006	R006	20MM TP-T PROJECTILES	60	0.28	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	C	D003
007	R007	20MM API PROJECTILES	60	0.64	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
008	R008	20MM API NOSECONES (OIL OPT.)	60	0.64	*SPECIAL FIREWORKS	CLASS B EXPLOSIVE	15A, 12B	EXPLOSIVE B	SPECIAL FIREWORKS-HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.3	G	D003
009	R009	20MM M505 FUZES	500	2.39	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
010	R010	25MM CART. CASES, EMPTY, PRIMED	10	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
011	R011	25MM PRIMERS (OIL)	1000	0.40	*SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.2	B	D003
012	R012	25MM HEI PROJECTILES	20	1.42	*EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
013	R013	25MM M505 FUZES	500	2.39	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
014	R014	30MM CART. CASES, EMPTY, PRIMED	5	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
015	R015	30MM PRIMERS (OIL)	1000	0.36	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.2	B	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
016	R016	30MM HEI PROJECTILES	5	0.63	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
017	R017	30MM IB52 IGN.PEL.&FLASH TUBE-OIL	1000	0.71	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	G	D003
018	R018	FLASHTUBES (OIL)	1000	0.71	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBERBD	NONE	SMALL ARMS AMMUNITION	NONE	1.3	G	D003
019	R019	30MM M505 FUZES	500	2.39	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.1	B	D003
020	R020	40MM CART. CASE, EMPTY, PRIMED	25	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
021	R021	40MM COMPLETE CARTRIDGE	25	0.10	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBERBD	NONE	SMALL ARMS AMMUNITION	NONE	1.4	B	D003
022	R022	40MM BASE PLUGS	125	0.09	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.2	G	D003
023	R023	40MM PRIMERS (OIL)	1000	0.07	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.2	B	D003
024	R024	ELECTRIC SQUIBS (OIL)	100	0.01	ELECTRIC SQUIBS	CLASS C EXPLOSIVE	FIBREBO ARD BOX	EXPLOSIVE C	ELECTRIC SQUIBS	NONE	1.4	S	D003
025	R025	ELECTRIC MATCHES (OIL)	100	0.01	ELECTRIC SQUIBS	CLASS C EXPLOSIVE	FIBREBO ARD BOX	EXPLOSIVE C	ELECTRIC SQUIBS	NONE	1.4	S	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
026	R026	IGNITERS (OIL)	15	0.20	IGNITERS	CLASS C EXPLOSIVE	FIBREBOARD BOX	EXPLOSIVE C	IGNITERS	NONE	1.3	C	D003
027	R027	IGNITER ASSEMBLIES	25	0.30	EXPLOSIVE POWER DEVICE, CLASS C	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	EXPLOSIVE POWER DEVICES, CLASS C-HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.4	C	D003
028	R028	M505 FUZES (R & D)	500	2.39	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
029	R029	PRIMERS (R & D) (OIL)	1000	0.43	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.2	B	D003
110	R030	50 CAL M17 TRACER PROJECTILES	150	1.41	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	S	D003
111	R031	50 CAL MPC PROJECTILES	150	0.81	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
112	R032	50 CAL PRIMED CASES	40	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
113	R033	50 CAL M17 TRACER CARTRIDGES	15	0.62	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBERBD	NONE	SMALL ARMS AMMUNITION	NONE	1.4	C	D003
164	R034	20MM PGU-28/B PROJECTILES	60	1.2	*EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
165	R035	50 CAL MPC CHARGED CORE BODY	60	0.21	*FUZE,DETONATING,CLASS C EXPLOSI	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
166	R036	20MM MP-T-SD CHGD PROJ BDY ASSY	60	0.73	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
167	R037	20MM MP-T-SD TRCD PROJ BODY ASSY	60	0.37	EXPLOSIVE POWER DEVICE, CLASS C	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	EXPLOSIVE POWER DEVICES, CLASS C-HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.4	C	D003
168	R038	20MM MP-T-SD CHRGD NOSE ASSY	60	0.42	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
169	R039	20MM 28/B PROJ W/O LOADED NOSE	60	0.78	*FUZE,DETONATIN G, CLASS C EXPLOS	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
170	R040	20MM 28/B (SAPHEI) LOADED NOSE	60	0.44	*FUZE,DETONATIN G,CLASS C EXPLOSI	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
171	R041	50 CAL SLAP TRACER PROJECTILE	150	0.21	NONEXPLOSIVE AMMUNITION	NONE	ANY	NONE		NONE	1.4	B	D003
172	R042	50 CAL SLAP TRACER CARTRIDGE	15	0.55	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBERBD	NONE	SMALL ARMS AMMUNITION	NONE	1.4	B	D003
173	R043	20MM MP-T-SD (XM940) PROJECTILES	60	1.12	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
114	R044	50 CAL MPC CARTRIDGES	15	0.58	AMMO FOR SM ARMS W/EXPLO PROJ	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	AMMUNITION FOR SMALL ARMS WITH EXPLOSIVE PROJECTILE	NONE	1.2	E	D003
115	R045	20MM MPC NOSECONES (OIL OPT.)	60	0.40	*SPECIAL FIREWORKS	CLASS B EXPLOSIVE	15A,12B	EXPLOSIVE B	SPECIAL FIREWORKS-HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.3	G	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
116	R046	20MM MPC PROJECTILES	60	1.25	*EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
117	R047	VARIOUS ROUNDS/CARTRIDGES			AS APPROPRIATE				CONTACT REGULATORY COMPLIANCE FOR ASSISTANCE				
131	R048	5.56MM TRACE PROJECTILES	2000	1.37	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	C	D003
132	R049	5.56MM TRACE PRIMED CASES	1000	0.06	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
133	R050	5.56MM CARTRIDGES	1000	4.54	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBREBD	NONE	SMALL ARMS AMMUNITION	NONE	1.4	S	D003
134	R051	30MM AAH PDM759 FUZES	500	0.4	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	METAL, WOOD, 12H	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.4	D	D003
136	R053	HEDP PROJ CAPPED-NO FUZE,NO RETA	5	0.3	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	METAL, WOOD	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
137	R054	HEDP SPITBACK LEAD ASSEM (OIL)	50	0.03	DETONATORS, CLASS C EXPLOSIVES	CLASS C EXPLOSIVE	15A, 12H	EXPLOSIVE C	DETONATORS-HANDLE CAREFULLY	NONE	1.1	B	D003
138	R055	30MM HEDP DETONATORS (OIL)	50	0.01	DETONATORS, CLASS C EXPLOSIVES	CLASS C EXPLOSIVE	15A, 12H	EXPLOSIVE C	DETONATORS-HANDLE CAREFULLY	NONE	1.2	B	D003
140	R056	120MM PRIMERS (OIL)	5	0.09	CANNON PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	CANNON PRIMERS-HANDLE CAREFULLY	NONE	1.2	B	D003

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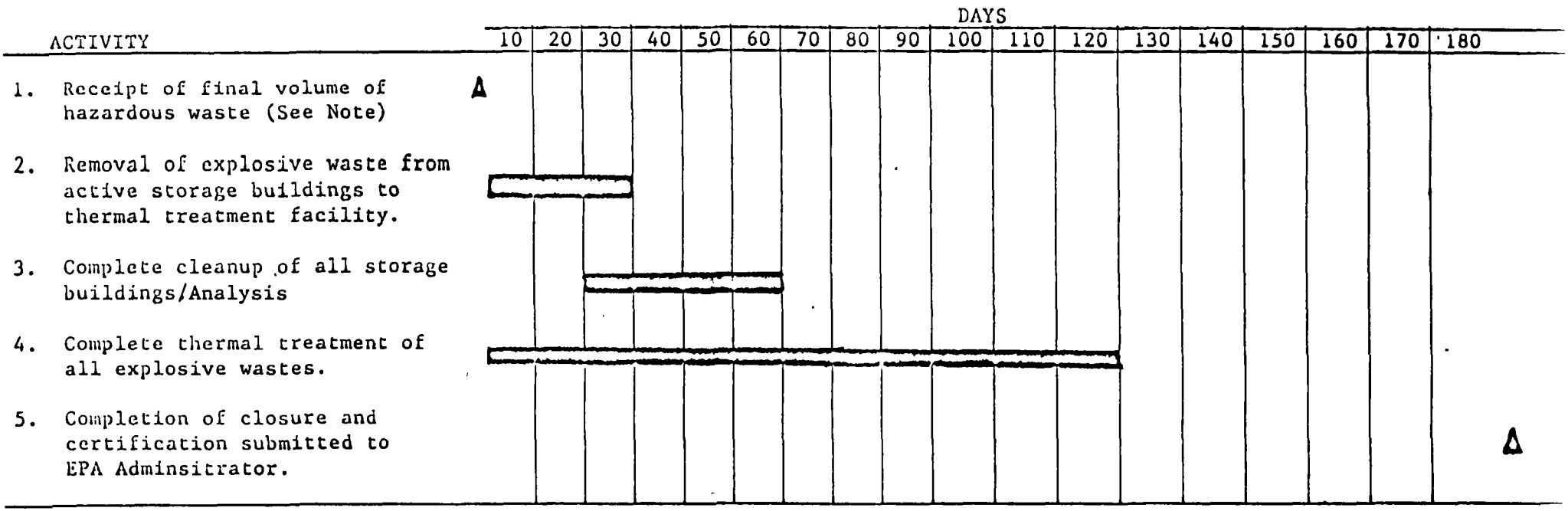
AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
142	R057	20MM PGU-30/B PROJECTILES	60	0.18	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	C	D003
135	S052	30MM HEDP PROJ W/FUZE,INERT FUZE	5	0.3	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	METAL, WOOD	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003

ATTACHMENT 4
ANTICIPATED FINAL CLOSURE SCHEDULE



(NOTE: OR after approval of the closure plan, if that is later, final closure activities will be initiated.)

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ATTACHMENT 5: CLOSURE COST ESTIMATE

		CLOSURE COSTS
A.	REMOVAL OF EXPLOSIVE WASTE FROM ACTIVE STORAGE BUILDINGS TO THERMAL TREATMENT FACILITY.	
	a. Laborers (240 manhours @ 7.65 hr.)	$ 1,836
	b. Overhead @ 120%	2,203
	c. Hauling (60 trips @ $30 ea.)	1,800
	Subtotal	$ 5,839
B.	COMPLETE CLEANUP OF ALL STORAGE BUILDINGS	
	a. Laborers (48 manhours @ 7.65/hr.)	$ 367
	b. Overhead @ 120%	440
	c. Cleaning and collection materials	50
	d. Analysis	2,000
	e. Offsite treatment/freight	2,500
	Subtotal	$ 5,357
C.	COMPLETE THERMAL TREATMENT OF ALL EXPLOSIVE WASTE	
	a. Laborers (960 manhours @ 7.65/hr.)	$ 7,344
	b. Overhead @ 120%	8,813
	Subtotal	$16,157
D.	CLOSURE CERTIFICATION	
	a. Professional Engineer/Certification	$ 1,500
	Subtotal	$ 1,500
E.	SUBTOTAL	$28,853
	CONTINGENCY @ 25%	7,213
F.	TOTAL CLOSURE COST @ 1981 DOLLARS	$36,066

$36,066	(1981)	
$39,471	(1982)	[1.0944 INDEX]
$41,839	(1983)	[1.06 INDEX]
$43,513	(1984)	[1.04 INDEX]
$45,254	(1985)	[1.04 INDEX]
$46,747	(1986)	[1.033 INDEX]
$48,149	(1987)	[1.03 INDEX]
$49,595*	(1988)	[1.03 INDEX]

*Rounded off per Corporate Directive as indicated on the financial demonstration.

Olin
ORDNANCE

MARION OPERATIONS

November 4, 1988

Permit Section, RCRA Unit
Division of Land Pollution Control
Illinois Environmental Protection Agency
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276

Attention: Mr. Lawrence W. Eastep, P.E., Manager

Reference: 1998620013 -- Williamson County
Olin Corp. - Ordill
IL8143609487
RCRA - Permit

Dear Mr. Eastep:

Enclosed herewith is the original and two (2) copies of the RCRA Permit Information Form and all required attachments per your correspondence dated 6 May 1988 for the above referenced facility. The permit application applies to Olin's - Ordill Area Hazardous Waste Management Storage Facility.

If further information is required, please contact the undersigned.

Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AHJ

Enclosure

RCRA PERMIT INFORMATION FORM

FOR AGENCY USE ONLY
Log No:
Received:
Reviewer:

I. SITE IDENTIFICATION

Illinois EPA Identification No. 1998620013

USEPA Identification No. IL8143609487

Facility Name: OLIN CORPORATION, MARION OPERATIONS

Facility Location: RT. 148 S. ORDILL INDUSTRIAL AREA 13
(Street Address)
MARION (City) ILLINOIS (State) 62959 (Zip Code) WILLIAMSON (County)

Facility Mailing Address (if different from facility location) P.O. BOX 278
(Street Address)
MARION (City) ILLINOIS (State) 62959 (Zip Code)

Contact Person: ARTHUR HEINZ, JR., DIRECTOR
(Name and Title)

Telephone Number: (618) 985-8211

II. APPLICANT INFORMATION

Owner Information

Name: U.S. DEPARTMENT OF INTERIOR, FISH AND WILDLIFE SERVICE

Address: (P.O. BOX J) RT. 148 S. ORDILL INDUSTRIAL AREA
(Street Address)
CARTERVILLE (City) ILLINOIS (State) 62918 (Zip Code)

Operator Information

Name: OLIN CORPORATION, MARION OPERATIONS

Address: RT. 148 S. ORDILL INDUSTRIAL AREA
(Street Address)
MARION (City) ILLINOIS (State) 62959 (Zip Code)

III. INFORMATION SPECIFIC TO THE FACILITY

A. Activities conducted by applicant which require a RCRA permit. (Please check the appropriate lines)

1. Storage in
   - [X] a. Containers
   - [ ] b. Tanks
   - [ ] c. Waste Piles
   - [ ] d. Surface Impoundments

2. Treatment in
   - [ ] a. Containers
   - [ ] b. Tanks
   - [ ] c. Surface Impoundments
   - [ ] d. Incinerators
   - [ ] e. Other (please explain)

3. Disposal in
   - [ ] a. Waste Pile
   - [ ] b. Surface Impoundment
   - [ ] c. Landfill
   - [ ] d. Underground well

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This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

B. SIC codes which best reflect principal products or services provided by facility (maximum of 4) 3482 and 3489

C. Brief description of nature of the activities carried out at the facility Manufacture of ordnance products such as small, medium and large caliber ammunition and solid propellant gas generator propulsion systems dependent on U.S. Government and foreign subsidiaries contracts.

D. List of permits received from IEPA (please attach).

Reference Attachment 2

E. A topographic map (or other map if a topographic map is unavailable) extending one (1) mile beyond the property boundaries of the facility, depicting the facility and each of its intake and discharge structures, each of its hazardous waste treatment, storage or disposal facilities, each well where fluids from the facility are injected underground, and those wells, springs, other surface water bodies and drinking water wells listed in public records or otherwise known to the applicant within one fourth mile of the facility property boundary. Reference Part B Permit Application Section B-2

IV. ALTERNATIVE CHOSEN TO MEET THE REQUIREMENTS OF 35 IAC 703.157(f)

The above-referenced facility will meet the requirements of 35 IAC 703.157(f) in the following manner (check one)

X A. Pursue a final RCRA permit for the hazardous waste management activities conducted at the facility. Part B of the RCRA permit application for the unit(s) is enclosed.

____ B. Close the hazardous waste storage and/or treatment units at the facility prior to November 8, 1992.

1. Estimated date that closure plan will be submitted to IEPA for approval._____

2. Estimated date that closure is expected to begin._____

____ C. Pursue a final RCRA permit for some of the interim status hazardous waste management units at the facility, while closing the rest of them.

1. Units for which a final RCRA permit is desired (and for which Part B of the RCRA permit application is being submitted).

_____

_____

2. Units which will be closed

a. Units for which a closure plan is being submitted at this time. _____

_____

b. Units for which a closure plan will be submitted in the future (NOTE THAT THESE UNITS MUST BE INCLUDED IN THE APPLICATION REQUIRED FOR THE UNITS IN ITEM IV.C.1 ABOVE)

_____

_____

i. Estimated date of closure plan submittal._____

_____D. Make a demonstration that the original Part A for the facility was filed in error (i.e., the application was filed as a protective measure). The basis for this demonstration is that (1) hazardous waste generated at the facility has never been stored on-site for greater than ninety (90) days or (2) hazardous waste has not been treated or disposed at the facility. The enclosed form entitled Facility Part A Withdrawal Request Form (IL 532-1489 LPC 233 8186) must be completed and submitted to the Agency if the facility desires to pursue this alternative.

_____E. Other (please explain)_____

List the documents which accompany this submittal

1. Part A Application
2. Part B Application
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

V. POTENTIAL RELEASES FROM SOLID WASTE MANAGEMENT UNITS

Please complete Attachment 1. If you choose not to complete this form, please attach an explanation for this decision. If you have already completed this form and submitted it to the Agency, please include a copy of it with the information form being submitted.

Reference Attachment 1

VI. CERTIFICATION

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

[signature] Director 11/3/88
(Name and Title) (Date)

JM:mab/514j/sp/1-3

Attachment 1

CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: OLIN CORPORATION, MARION OPERATIONS

EPA I.D. NUMBER: USEPA ID #8143609487 IEPA ID #1998620013

LOCATION CITY: MARION

STATE: ILLINOIS

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTES UNITS CURRENTLY IDENTIFIED IN THE PART A APPLICATION, PART B APPLICATION, OR ANY CLOSURE PLAN FOR THE FACILITY.

	YES	NO
- Landfill	___	X
- Surface Impoundment	___	X
- Land Farm	___	X
- Waste Pile	___	X
- Incinerator	___	X
- Storage Tank (Above Ground)	___	X
- Storage Tank (Underground)	___	X
- Container Storage Area	___	X
- Injection Wells	___	X
- Wastewater Treatment Units	___	X
- Transfer Stations	___	X
- Waste Recycling Operations	___	X
- Waste Treatment, Detoxification	___	X
- Other _____		

2. If there are "yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed on and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if available.

Non-Applicable

NOTE: Hazardous waste are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units identified in your Part A, Part B or any closure plan, please describe (for each unit) any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or that may still be occurring.

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B-2 Figure 2	100-YEAR FLOODPLAIN
B-2 Figure 3	SURROUNDING LAND USE
B-2 Figure 4	WIND ROSE
B-2 Figure 5	MISCELLANEOUS OPERATIONS
B-3 Figure 1	100-YEAR FLOODPLAIN
B-4 Figure 1	TRAFFIC PATTERNS
D-1 Figure 1	ARRANGEMENT OF CONTAINERS
D-1 Figure 2	DESIGN OF BUILDINGS

001087

A. PART A APPLICATION

The following pages include the Ordill area's Part A Application. Copies of historical correspondence regarding Part A modifications are included in Appendix A.

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch)

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F I L 8 1 4 3 6 0 9 4 8 7

LABEL ITEMS

I. EPA I.D. NUMBER

II. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

IL8143609487
OLIN CORPORATION
MARION OPERATIONS
P.O. BOX 278
RT. 148 S. ORDILL AREA 13
MARION, IL 62959

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affi: it in the designated space. Review the inform ation carefully; if any of it is incorrect, cros through it and enter the correct data in th appropriate fill-in area below. Also, if any o the preprinted data is absent *(the area to th left of the label space lists the informatio that should appear)*, please provide it in th proper fill-in area(s) below. If the label i complete and correct, you need not complet Items I, III, V, and VI *(except VI-B whic must be completed regardless)*. Complete a items if no label has been provided. Refer t the instructions for detailed item descrip tions and for the legal authorizations unde which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: OLIN CORPORATION MARION OPERATIONS

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 HEINZ JR ARTHUR DIRECTOR	618 985 8211

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX			
3 PO BOX 278			
B. CITY OR TOWN	**C. STATE**	**D. ZIP CODE**	
4 MARION	IL	62959	

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER			
5 RT 148 S ORDILL AREA 13			
B. COUNTY NAME			
WILLIAMSON			
C. CITY OR TOWN	**D. STATE**	**E. ZIP CODE**	**F. COUNTY CODE *(if known)***
6 MARION	IL	62959	

001289

CONTINUE ON REVER

XI. MAPS - TOPOGRAPHIC

The maps on the following pages were excerpted from the geological survey map as indicated. The areas of Olin included are as follows:

AREA 13

CRAB ORCHARD LAKE QUADRANGLE
ILLINOIS-WILLIAMSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ROAD CLASSIFICATION

Heavy duty — Light duty
Medium duty — Unimproved dirt
State Route

QUADRANGLE LOCATION

CRAB ORCHARD LAKE, ILL.

N3737.5—W8900/7.5

1966
PHOTOREVISED 1978
AMS 3159 II NE—SERIES V863

Mapped, edited, and published by the Geological Survey

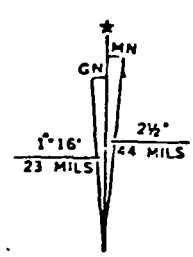
Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1963. Field checked 1966

Polyconic projection. 1927 North American datum
10,000-foot grid based on Illinois coordinate system, east zone
1000-meter Universal Transverse Mercator grid ticks, zone 16, shown in blue

Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked

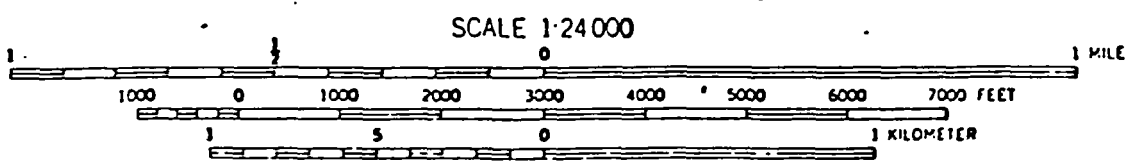
Revision shown in purple compiled from aerial photographs taken 1976 and other source data. This information not field checked. Map edited 1978



UTM GRID AND 1978 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

001292

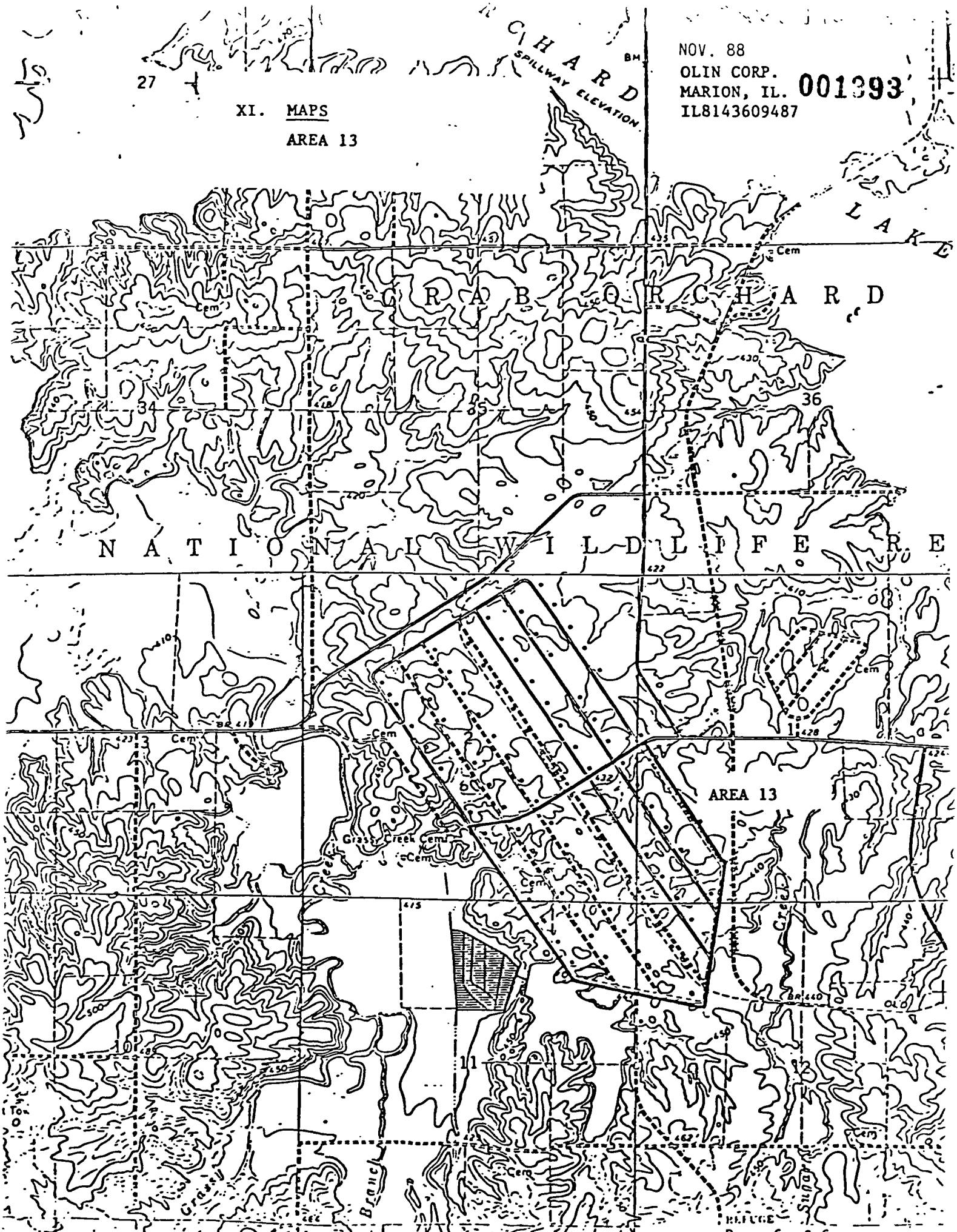
SCALE 1:24 000



CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

XI. MAPS

AREA 13



(fill—in areas are spaced for elite type, i.e., 12 characters/inch)

Form Approved OMB No. 158-S80004

FORM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F I L 8 1 4 3 6 0 9 4 8 7

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

☐ 2. NEW FACILITY *(Complete item below.)*

C 8

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

FOR NEW FACILITIES PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

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

C DUP

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	60,000	G		7				
					8				
3					9				
4					10				

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)		FOR OFFICIAL USE ONLY	
W I L 8 1 4 3 6 0 9 4 8 7	1	W DUP	2 DUP

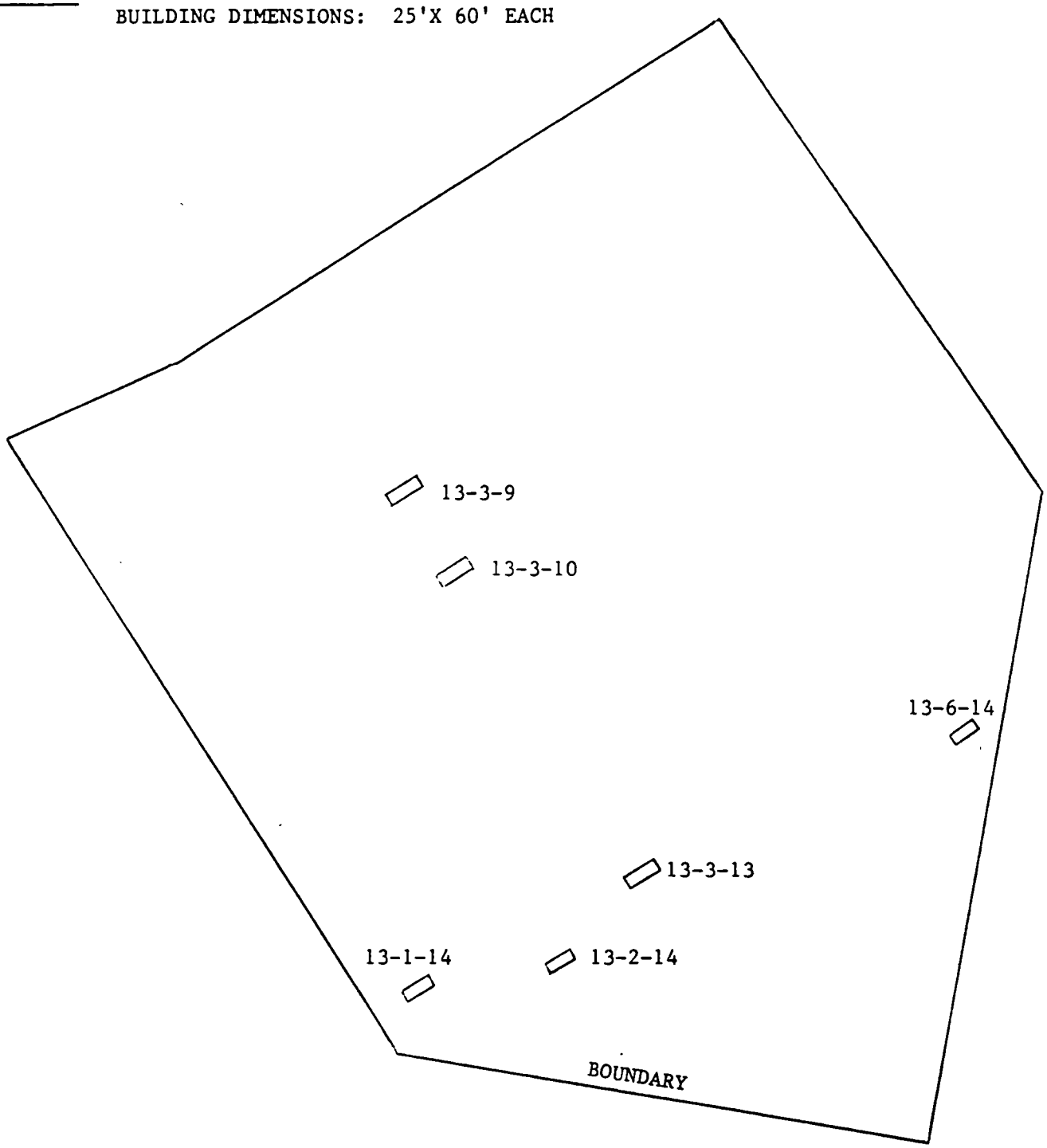
IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D001	300,000	P	S01	
2	D003	INCLUDED WITH LINE 1	P	S01	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

V. FACILITY DRAWING *(see page 4)*

IL8143609487

AREA 13: CONTAINER STORAGE
BUILDING DIMENSIONS: 25'X 60' EACH

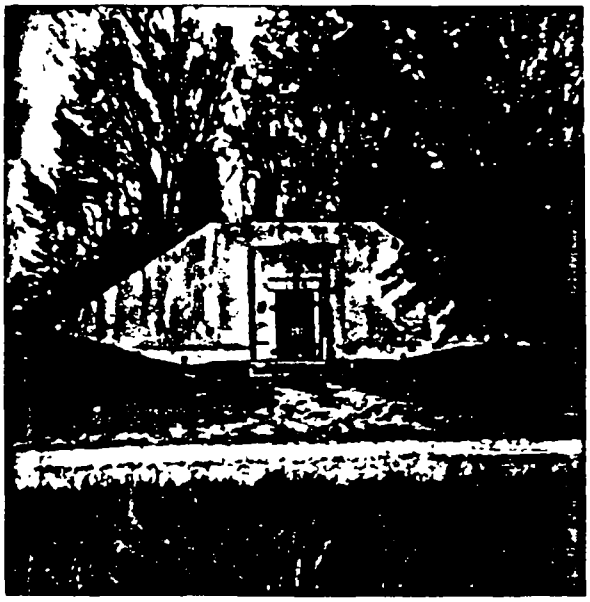


SCALE: 3" = 2000'

13-3-9
NOV. 1, 1988

13-3-10
Nov. 1, 1988

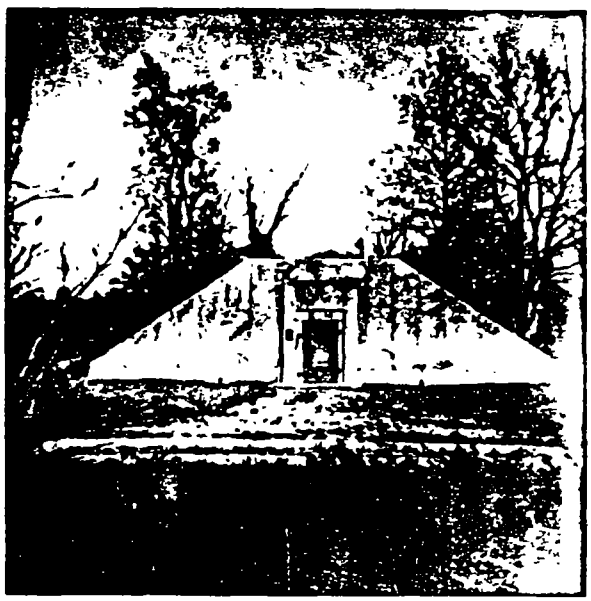
13-3-13
NOV. 1, 1988



13-1-14
NOV. 1, 1988

13-2-14
NOV. 1, 1988

13-6-14
NOV. 1, 1988



B-2 TOPOGRAPHIC MAPS

[40 CFR 270.14(b)(19), 35 IAC 703.183(s), 703.185(c), 703.185(d), 724.195, 724.197]

B-2a General Map Requirements

A topographic map [B-2 Figure 1] shows the site and an area 1000 feet outside the facility's boundaries at a scale of approximately 1" = 200'.

B-2 Figure 2 shows the extent of the 100-year floodplain in this area. The entire Ordill facility lies outside of the area of the 100-year floodplain.

B-2 Figure 3 shows the surrounding area as including the Crab Orchard Lake Wildlife Refuge.

B-2 Figure 4 shows the annual wind rose for St. Louis Lambert Airport. Lambert Airport provides the nearest and best available site for wind data.

B-2 Figure 5 provides the legal boundaries of the facility. Also shown, for those which exist, are access control, buildings, treatment, storage, or disposal operations, and barriers for drainage or flood control, including hazardous waste operations.

There are no water sources for residences, injection or withdrawal wells located on this site.

B-2b Additional Map Requirements for Land Disposal Facilities

This application is not being made for a land disposal facility; therefore, the requirements of this section do not apply.

FLOOD HAZARD BOUNDARY MAP

WILLIAMSON COUNTY
ILLINOIS
UNINC. AREAS

PAGE 3 OF 4

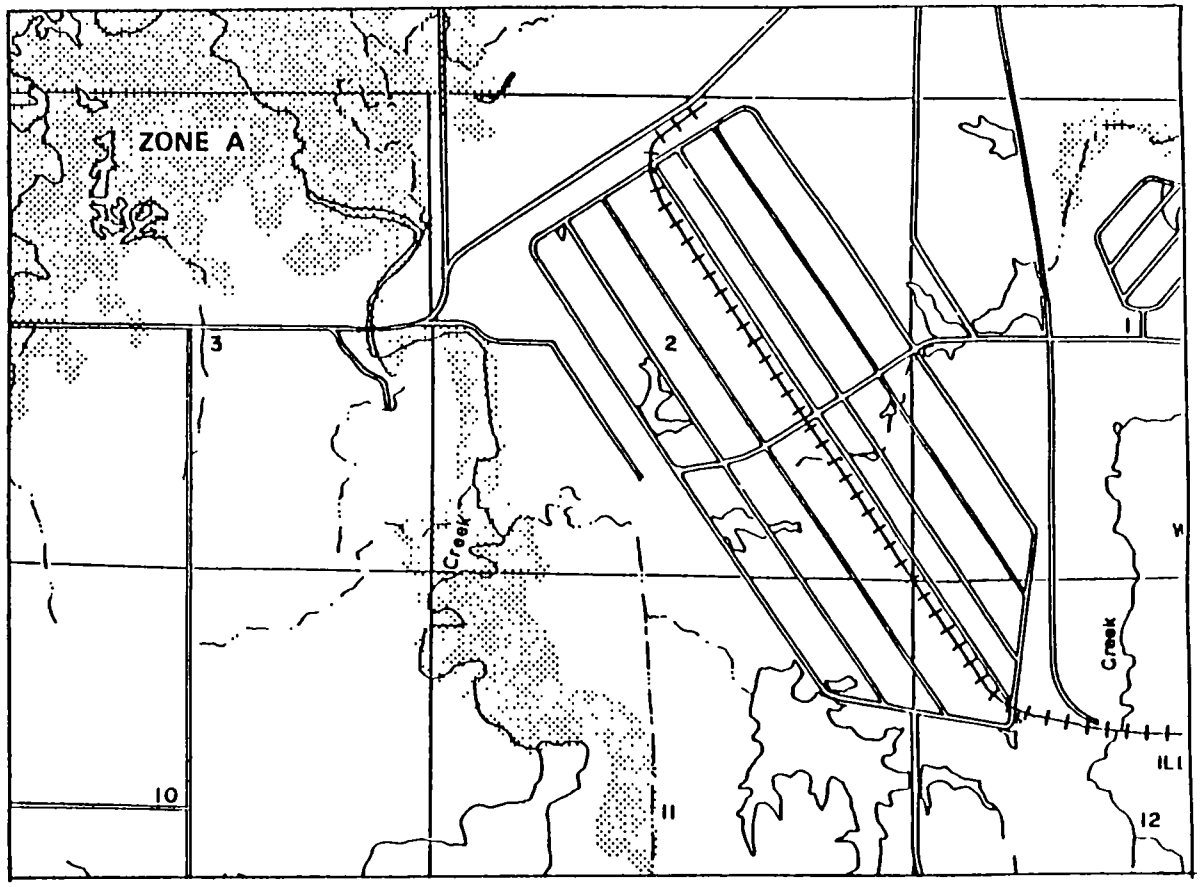
(SEE MAP INDEX FOR PAGES NOT PRINTED)

EFFECTIVE DATE:
MARCH 31, 1978

COMMUNITY–PANEL NUMBER
170934 0003 A

170100

U.S. DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION



KEY TO SYMBOLS

SPECIAL FLOOD HAZARD AREA

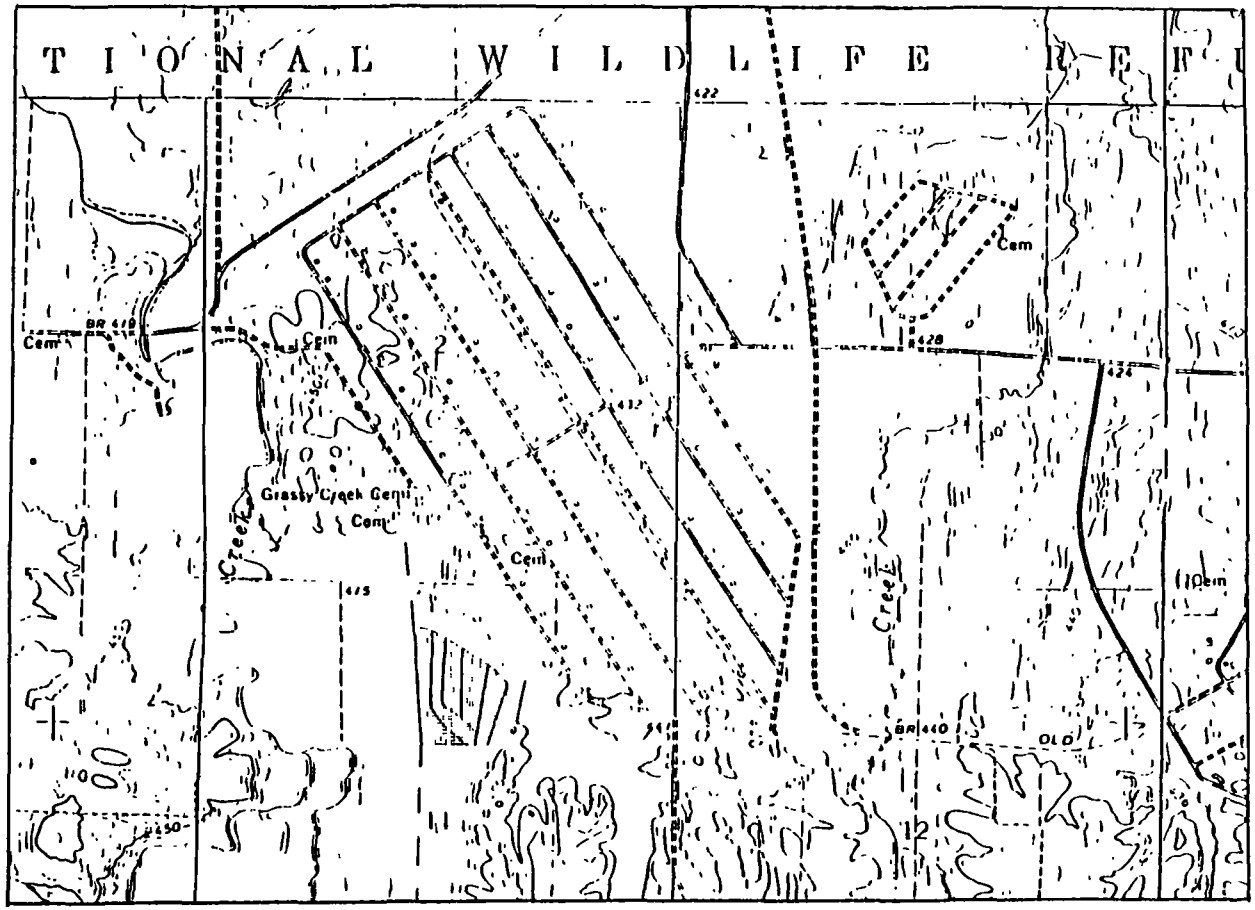
ZONE A

APPROXIMATE SCALE IN FEET:
2000 0 2000

Note: These maps may not include all Special Flood Hazard Areas in the community. After a more detailed study, the Special Flood Hazard Areas shown on these maps may be modified, and other areas added.

"CONSULT THE FEDERAL INSURANCE ADMINISTRATOR'S REGIONAL OFFICE OR CALL (800) 424 8872 (TOLL FREE) TO DETERMINE IF PROPERTIES IN THIS COMMUNITY ARE ELIGIBLE FOR F

B-2, Figure 2
Fl[illegible] Plain Area



CRAB ORCHARD LAKE, ILL.

N3737.5—W8900/7.5

PHOTOREVISED 1978
AMS 3159 II NE-SERIES V863

Figure 3
Surrounding Land Uses

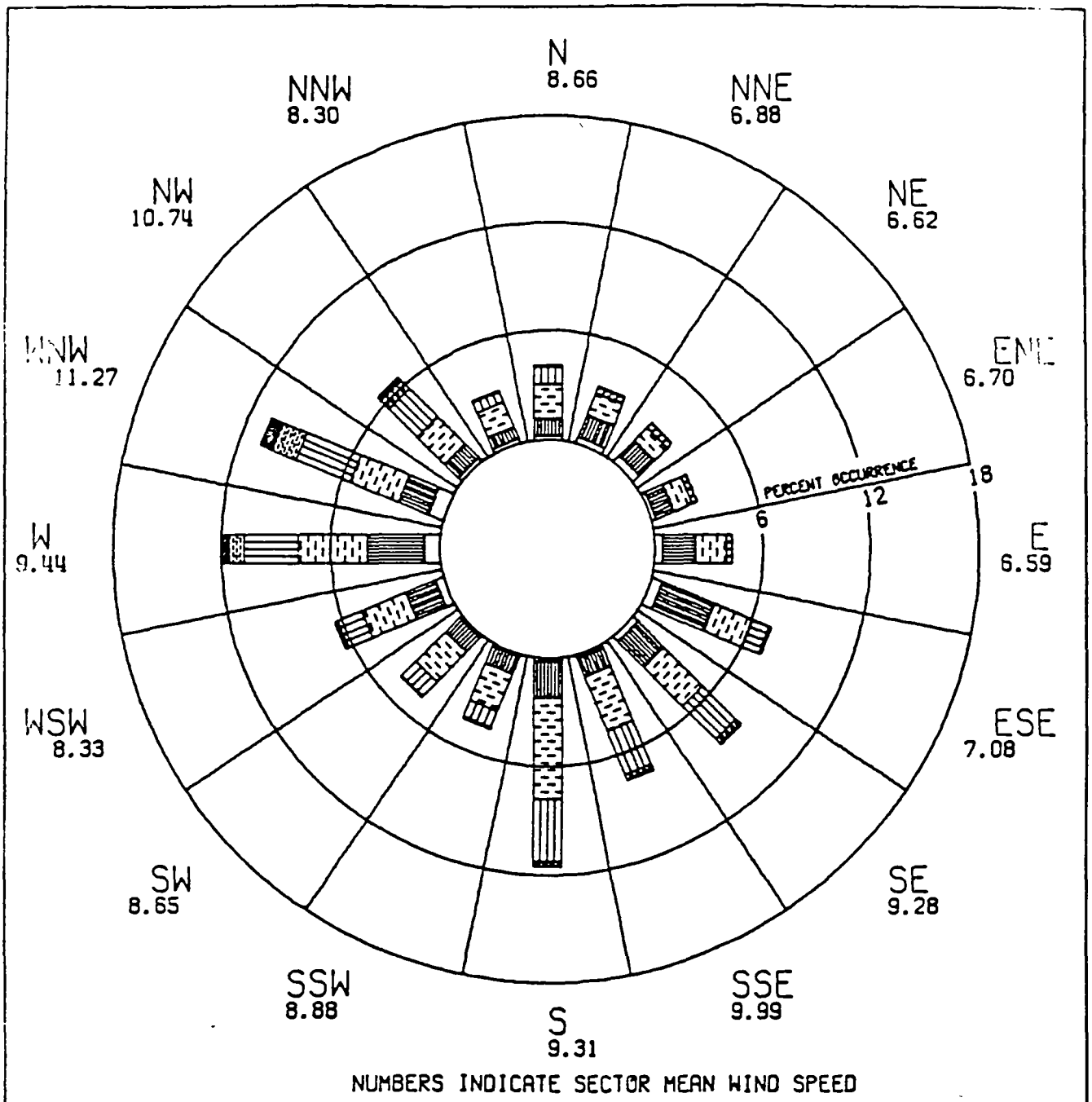


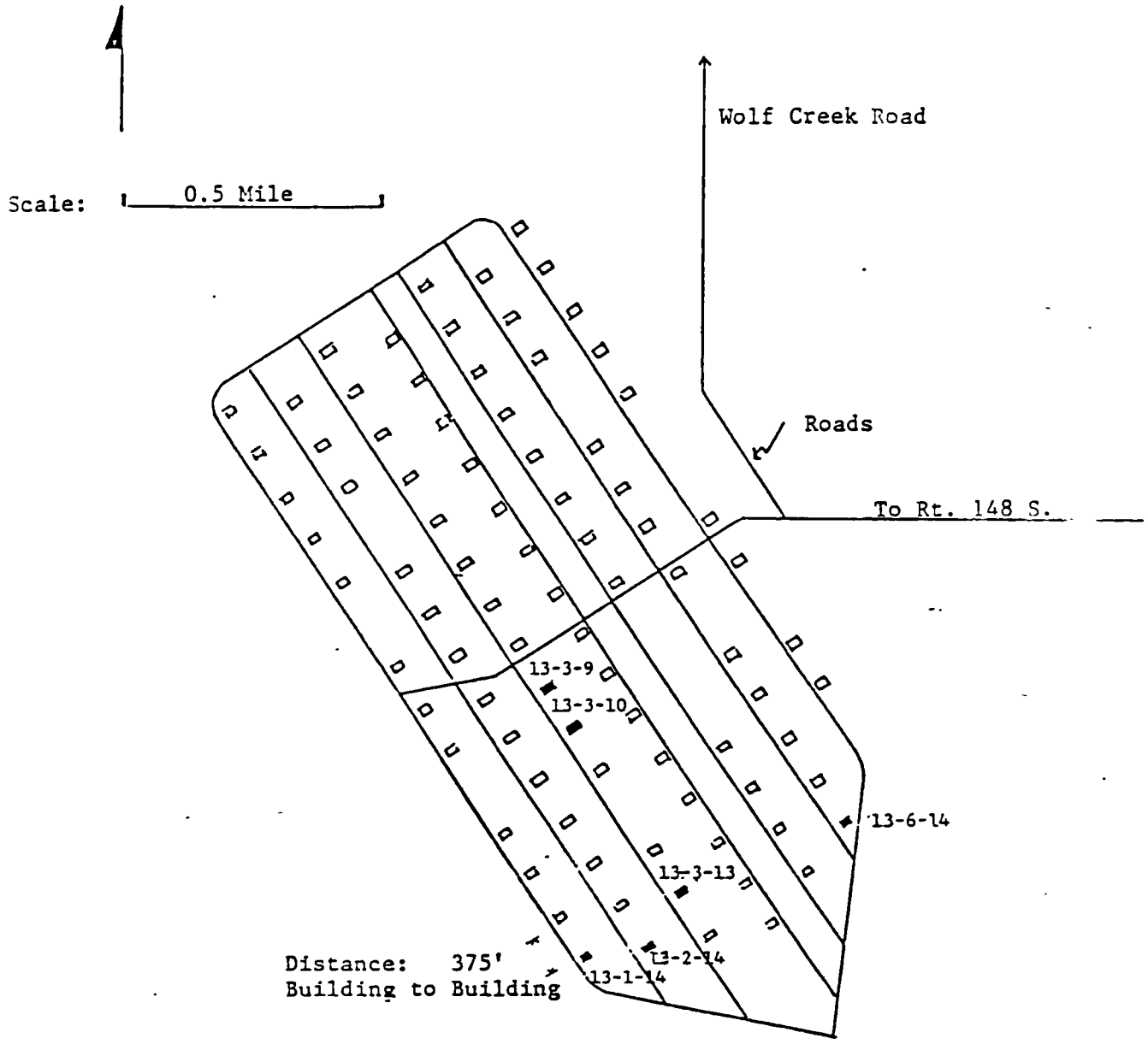
FIGURE 3-1
WIND FREQUENCY DISTRIBUTION

ST. LOUIS, MISSOURI
WIND ROSE - 1977

001403

B-2, Figure 4
Wind Rose

AREA 13



Waste Storage Buildings:

13-1-14	13-3-9
13-2-14	13-3-10
13-6-14	13-3-13

Dimensions: 25' X 60'

001404

B-2, Figure 5
Site Plan

B-3 OTHER STANDARDS

[40 CFR 270.14(b)(11), 35 IAC 724.118, 703.184(c), 724.118(b), 7081184(d), 724.118(b)]

B-3a Seismic Standard

The Olin Ordnance Marion Operations facility is located in Williamson County, Illinois. Appendix VI of 40 CFR Part 264 does not list Illinois as a seismically active area; therefore, no further information is required in this section.

B-3b Floodplain Standard

The hazardous waste management facilities are not located within the 100-year floodplain area. A portion of the Flood Insurance Rate Map (FIRM) for this area is shown in B-3 Figure 1.

B-3c Other Location Requirements

This application is not being made for a disposal facility; therefore, the requirements of this section do not apply.

001405

FLOOD HAZARD BOUNDARY MAP

WILLIAMSON COUNTY
ILLINOIS
UNINC. AREAS

PAGE 3 OF 4

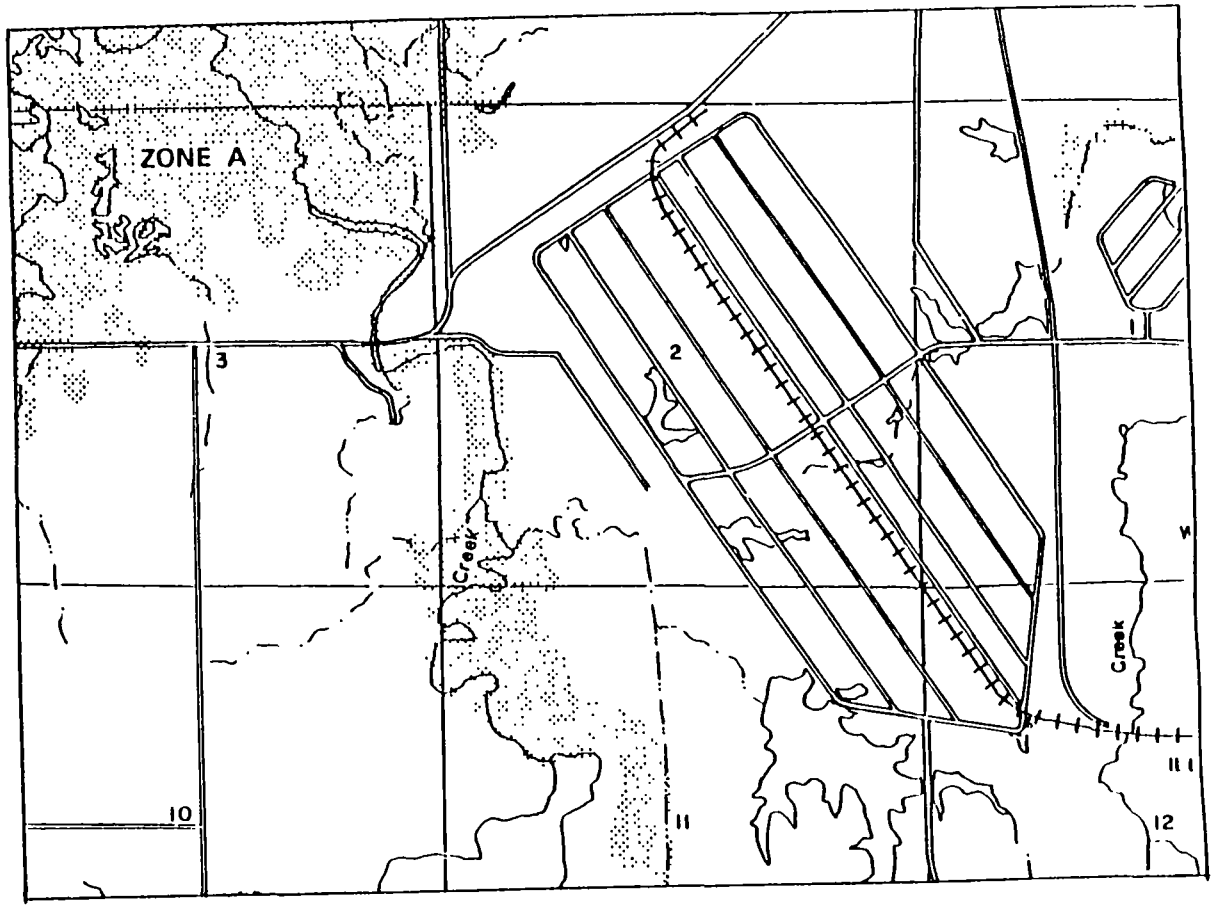
(SEE MAP INDEX FOR PAGES NOT PRINTED)

EFFECTIVE DATE:
MARCH 31, 1978

COMMUNITY–PANEL NUMBER
170934 0003 A

90 1106

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT



KEY TO SYMBOLS

SPECIAL FLOOD HAZARD AREA

ZONE A

APPROXIMATE SCALE IN FEET:
2000 0 2000

Note: These maps may not include all Special Flood Hazard Areas in the community. After a more detailed study, the Special Flood Hazard Areas shown on these maps may be modified, and other areas added.

"CONSULT THE FEDERAL INSURANCE ADMINISTRATOR'S REGIONAL OFFICE OR CALL (800) 424 8872 (TOLL FREE) TO DETERMINE IF PROPERTIES IN THIS COMMUNITY ARE ELIGIBLE

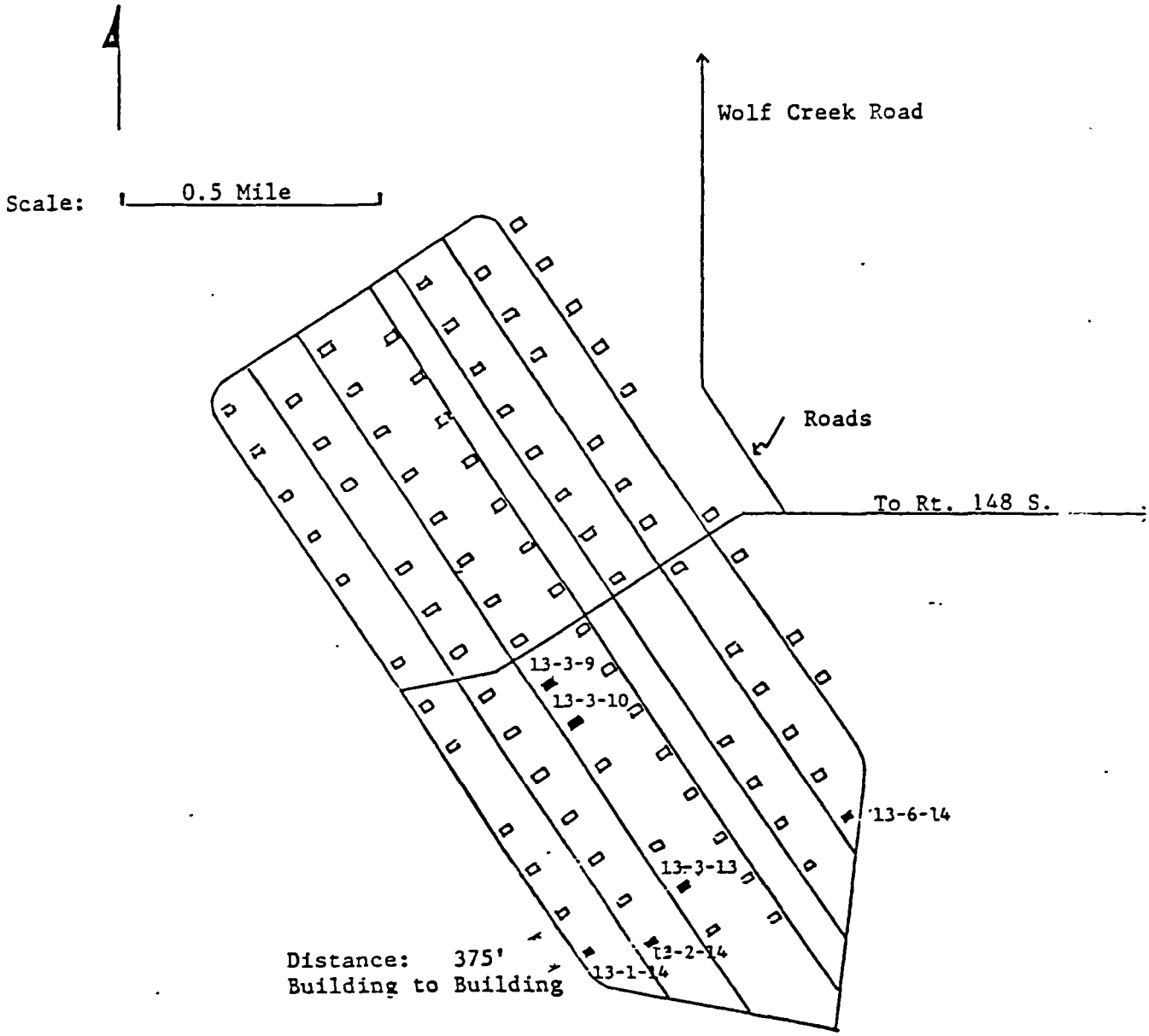
B-3, Figure 1
Flood Plain Area

B-4 TRAFFIC INFORMATION
[270.14(b)(10), 35 IAC 703.183(j)]

Traffic patterns on site must follow the roads that are shown in B-4 Figure 1. Traffic at Area 13 is light, since it is located on the industrialized, rural area of the Crab Orchard Fish and Wildlife Refuge. On an average work day, one vehicle may be at the area at any one time. Furthermore, the hazardous waste storage facility is located in a portion of the Refuge that is restricted from public access and recreation. Some of the land may be farmed. Vehicles may include cars, pickups, trucks, tractors, and tractor-trailers. The amounts of hazardous material in transit is variable depending on whether waste or other materials are being hauled by Olin or other tenants. Routine waste shipments to waste storage generally do not exceed 1600 pounds gross. Average shipments are typically less than 1000 pounds gross. There are no traffic control signs or signals within the area. Traffic procedures include general rules of the road for Illinois. The roadway surfaces consist of a gravel surface and are adequate for access to the area. The load bearing capacity for expected traffic at the site is up to 80,000 pounds.

001407

AREA 13



Waste Storage Buildings:

13-1-14	13-3-9
13-2-14	13-3-10
13-6-14	13-3-13

Dimensions: 25' X 60'

001408

B-4, Figure 1
Traffic Patterns

C. WASTE CHARACTERISTICS

C-1 CHEMICAL AND PHYSICAL ANALYSES
[40 CFR 270.14(b)(2), 35 IAC 703.183(b), 724.113(a)]

The only waste stream authorized for waste storage is "explosives." Appendix B includes an example list of hazardous explosive wastes that may be stored at the hazardous waste storage facility. Included in the appendix are the constituents of the wastes and hazard designations. All of the wastes are explosive wastes with either a D001 or D003 EPA hazardous waste number. The EPA classifies oxidizers as D001 and Class A and B explosives as D003 by definition. Class C explosives are typically D003, and flammable solids are typically D001, also based on definition and knowledge of the explosive. Additional explosives may be added to the list periodically, depending on what contracts are received by Olin and what is developed by Research and Development. An example of chemical and physical analyses of a representative sample is located in Appendix B. The explosives are classified as explosives in accordance with 49 CFR 173.86 or 173.114a by an authorized agency. Further information is located in the "Waste Analysis Plan" per Section C-2.

C-1a Containerized Waste

The waste is stored in the approved DOT shipping containers. Any wastes that have had water or oil added to them are stored in a liner within the DOT container.

C-1b Waste in Tank Systems

There are no hazardous wastes stored in Tank Systems at this facility.

C-1c Waste in Piles

There are no hazardous wastes stored in Waste Piles at this facility.

C-1d Landfilled Wastes

There are no hazardous wastes Landfilled at this facility.

C-1e Wastes Incinerated and Wastes Used in Performance Tests

There are no hazardous wastes treated in Incinerators at this facility.

C-1f Wastes to be Land Treated

There are no hazardous wastes Land Treated at this facility.

C-2 WASTE ANALYSIS PLAN

[40 CFR 270.14(b)(3), 35 IAC 703.183(c), 724.113(b) and (c)]

This section describes the steps Olin is taking to ensure that hazardous wastes generated are properly classified, handled, and disposed. A copy of the Waste Analysis Plan is included as Appendix C.

C-2a Parameters and Rationale

The constituents and characteristics of the explosive materials, and therefore the wastes, are known and documented from the contract military specifications, information received from suppliers, and tests performed for safety hazards analysis and classification for shipping. It is, therefore, not necessary to reanalyze the wastes.

The Marion Operations generally conducts the required tests on-site and submits information consisting of drawings, the characteristics and components, and test results to the proper agencies for classification and approval.

C-2b Test Methods

Various tests are performed on explosives generally present at the Marion Operations, depending on Olin requirements, the contract requirements and DOT requirements, and DOD requirements. The Marion Operations conducts, as a minimum, various tests to establish a safety hazards analysis on explosive items. Hazards tests that can be performed at the Marion Operations include:

- Thermal Stability;
- Impact Sensitivity (Bureau of Mines);
- Impact Sensitivity (Bureau of Explosives);
- Five-Second Autoignition;
- Strip Friction;
- Electrostatic Discharge Sensitivity; and
- Deflagration to Detonation.

C-2c Sampling Methods

The explosive item/component itself is tested or a representative sample is taken for testing.

C-2d Frequency of Analyses

Each waste will be analyzed whenever there is a raw material, process, or equipment change that may alter the waste characteristics. Initial analysis or

C-3 QUALITY ASSURANCE
[35 IAC 702.145]

No Quality Assurance Plan has been prepared for this facility, since the constituents in the waste are always the same and the waste is always an explosive which is treated in the Thermal Destruct Unit.

001412

D. PROCESS INFORMATION

D-1 CONTAINERS

[40 CFR 270.15, 35 IAC 724.271, 724.272, 724.273, 703.201, 724.275]

D-1a Containers with Free Liquids

D-1a(1) Description of Containers

The containers used to store the solid hazardous waste generated at the Marion Operations are the approved DOT shipping containers. Each container will hold approximately 10 gallons of waste. Each container is marked as containing a hazardous waste and is also labeled with the type of waste it contains.

D-1a(2) Container Management Practices

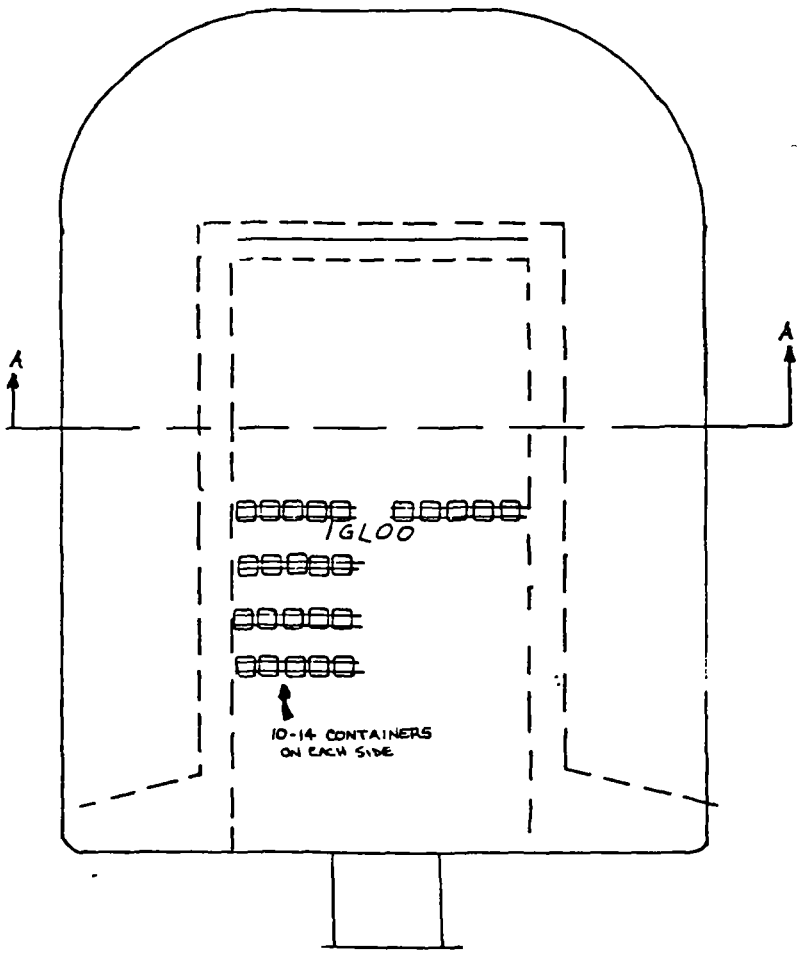
The containers are filled with waste at the main plant and are tightly closed and labelled. They are not opened again until they arrive at the Thermal Destruct Unit for treatment. The containers are stacked in rows, usually on wooden boards, usually two levels high.

D-1a(3) Secondary Containment System Design and Operation

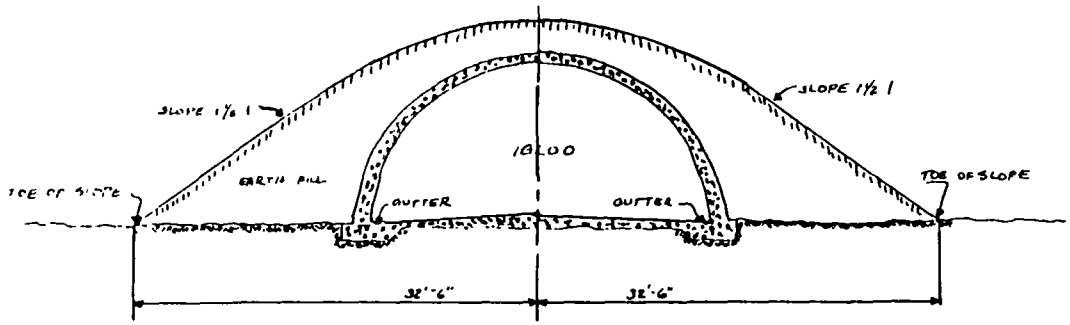
D-1 Figures 1 and 2 show the design of the buildings. No incompatible wastes are stored in these buildings.

D-1a(3)(a) Requirement for the Base or Liner to Contain Liquids

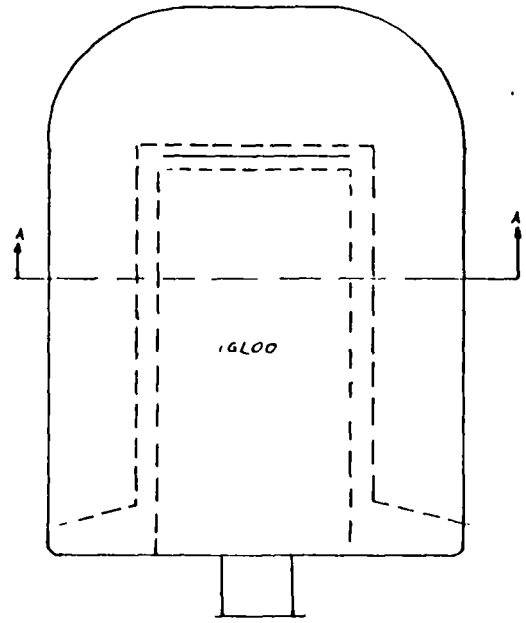
The Container Storage Area actually consists of several waste storage buildings with an EPA Process Code "S01" for 300,000 gallons. The active storage buildings are 13-1-14, 13-2-14, 13-6-14, 13-3-9, 13-3-10, and 13-3-13. The buildings are 25 feet by 60 feet each and are totally enclosed with access by one steel door. The buildings are military type cement bunkers and covered on all sides but one with dirt. The roof and walls are of reinforced cement two feet in thickness. The floors consist of poured cement. The floors are impervious to liquids and contain only hairline cracks. Troughs run the inner length of the buildings on both sides and the floor is sloped to encourage any liquids to collect in these troughs.



D-1 Figure 1
Arrangement of
Containers



SECTION "A"-"A"



TYPICAL MILITARY TYPE BUNKER

D-1 Figure 2
Design of Buildings

001115

D-1a(3)(b) Containment System Drainage

Containers are stored on boards, which elevates them approximately 2 inches above the floor.

D-1a(3)(c) Containment System Capacity

The wastes stored are generally solids, although a small amount of oil or water may be present in some waste types. The wastes are contained in liners and/or other secure inner containers within an outer container if water or oil has been added.

D-1a(3)(d) Control of Runon

The buildings are totally enclosed and, therefore, no runon can enter the buildings. As a precaution, waste containers are raised off the floor with wood.

D-1a(4) Removal of Liquids from Containment System

Any liquids which accumulate within the containment areas will be sampled and disposed of in a timely manner.

D-1b Containers Without Free Liquids

The wastes stored in the buildings are typically solids, although small amounts of oil or water may be added to the waste. If the oil or water is added, the waste is stored in a liner within the DOT approved container. This double container system is sufficient to contain any liquid that may leak from the inner liner.

001416

D-2 TANK SYSTEMS

There are no hazardous wastes stored in Tank Systems at this facility.

D-3 WASTE PILES

There are no hazardous wastes stored in Waste Piles at this facility.

D-4 SURFACE IMPOUNDMENTS

There are no hazardous wastes stored in Surface Impoundments at this facility.

D-5 INCINERATORS

There are no Incinerators at this facility.

D-6 LANDFILLS

There are no Landfills for hazardous waste at this facility.

D-7 LAND TREATMENT

There is no Land Treatment of hazardous waste conducted at this facility.

001417

E. GROUND WATER MONITORING

[40 CFR 264 Subpart F, 35 IAC 703.185, 724.190(b)]

This application is not being made for a land disposal facility; therefore, this section does not apply.

INTER OFFICE MEMO Olin

RECEIVED
NOV 21 1988
G. H. PAIN

TO B. Jack - AT

FROM J. Schneiderman AT

DATE 18 November 1988

COPY TO D. Dillard
A. Heinz
R. Hliwa
T. Wisely
~~G.~~ Pain
D. Marlow

SUBJECT 120MM Program Report: LAP Operations
MP0128 Environmental Assessment Report

Enclosed is the Environmental Assessment report per the statement of work for the 120MM Facility Engineering Study - LAP Operations. This report has been reviewed by Group. Therefore, if any changes are required, please advise.

Jean Schneiderman

JMS/mh

Enclosure

001419

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD ONE YEAR _____ OTHER _____

MP0128 ENVIRONMENTAL ASSESSMENT REPORT

REFERENCE: 3.15.6 Statement of Work

MP0128 ENVIRONMENTAL ASSESSMENT (Ref. 3.15.6)

Section 1: Purpose and Need for the Proposed Action

1.1 Olin Corporation is under contract with the U.S. Department of Defense, ARDEC to prepare a 120MM M829E2 Omnibus Facility Engineering Study. The proposed activities that would occur at the Olin-Marion Operations facility include the load, assembly, and pack (LAP) of the 120MM M829E2 Tank Ammunition. The LAP operations would take place on the Crab Orchard Fish and Wildlife Refuge which Olin leases from the U.S. Department of Interior. This report assesses the potential environmental impact of all facilities used in the 120MM LAP process.

1.2 Two aspects of the proposed action were identified and warrant the preparation of an environmental assessment because they are listed in AR 200-2, Ch. 5-3 (32CFR Part 651) as actions typically requiring an assessment. First, the proposed action would take place on the Crab Orchard Fish and Wildlife Refuge (5-3 m). Second, the proposed action may be considered to involve the production of hazardous materials (5-3 r).

Section 2: Description of the Proposed Action

2.1 Affected Environment

The proposed action would occur within an existing complex utilized by Olin for the production of various ordnance products. The complex includes 175 acres of facilities and 878 acres of buffer zone. The facilities and buffer zone are all located on the Refuge. The surrounding land or buffer zone is reserved primarily for wildlife. The land may be farmed with a percent of the crops grown to support the wildlife. The land north of the complex, which is also part of the Refuge, is utilized by Southern Illinois University, School of Technical Careers and U.S. Department of Energy, Coal Research Lab. Natural runoff from the site is to natural and/or manmade drainage ditches which ultimately flow to the Crab Orchard Lake. The Crab Orchard Wildlife Refuge is listed as a Superfund site in Williamson County. To date, the Remedial Investigation Study has been completed (Appendix A). Seven sites within the Refuge have been identified for cleanup review in the Feasibility Study. The Olin complex which would be utilized for the 120MM M829E2 tank ammunition is not included in the Feasibility Study for sites requiring cleanup.

The Remedial Investigation recommended that the U.S. Department of Interior monitor the drainage ditches from the complex where

the 120MM LAP activities would occur. The proposed action will not contribute to any contamination on the Refuge.

The "F" area buildings to be utilized for the proposed action include various buildings that were constructed in 1942 by the War Department and utilized by the Government as a fuze loading line during World War II. According to the War Department Facilities Inventory of the Illinois Ordnance Plant, Carbondale, Illinois, Corps of Engineers, U.S. Army Plan No. 6544 101.4D the buildings were identified as follows:

- F-2-5 Primer Day House;
- F-2-8 Black Powder Pellet Rest House;
- F-2-9 Delay Load Building; and
- F-2-10 Primer Load Building.

The facilities were utilized after the war by Job Corps for administrative services. Since then, these buildings have been vacated. Building D-1-13 is an existing facility and has been utilized by Olin for various munitions operations and/or storage.

The following is provided according to Mr. Norrell Wallace, Project Manager, U.S. Department of Interior, Crab Orchard Fish and Wildlife Service. "The F area has a history of manufacturing use since the 1940's with roadways, utilities, and underground sewer and water facilities. Prior to 1940, the area was predominately farm land. Consequently, wildlife utilization has been limited and habitat of use to endangered species is essentially non-existent in this area. There are no historical or archeologically significant areas within this previously developed and heavily used area."

2.2 Construction Activities

The proposed action will require refurbishment of five (5) buildings (D-1-13, F-2-5, F-2-8, F-2-9, and F-2-10), and construction of at least four (4) storage buildings. A 100 hp boiler will be installed in building F-2-8, including a boiler feed water system, a blowdown discharge separator, and a water softener. The boiler will be fired with natural gas which will require accessing an existing gas line in the vicinity. Refurbishment of the facilities identified to date will require the following:

- installation of new insulation;
- flushing existing sewer systems;
- maintaining all natural drainage;
- construction of one (1) 50'x100' building for finished goods storage;
- construction of at least three (3) 10'x10' buildings for raw material storage;
- construction of one (1) 75'x200' vehicle parking area;
- additions onto building F-2-10 for installation of the paint and cure operation with exhaust system, for conditioned storage of primers, and scrap collection;
- installation of exterior metal siding;

- painting of the building interiors;
- conditioning of the existing roadways with oil and chip and the addition of 100' of new roadway;
- installation of exhaust systems for the projectile/adapter assembly, the charge/cartridge assembly operation, stick propellant preparation-subassembly with oven operation, and the restrooms and change areas; and
- miscellaneous concrete work in the buildings.

2.2.1 Construction Waste

Construction waste and residuals from past activities in these facilities will be properly disposed at a permitted off-site landfill. Contaminated debris such as explosives or asbestos is not anticipated; however, if any of these materials are found, they would be properly packaged and disposed of in accordance with applicable regulations.

2.3 Production Activities

Production activity will include combustible case and various metal parts assembly; applying adhesive in the projectile/adapter assembly and cartridge assembly and cleanup with acetone; assembly of black powder bags for the igniter charge; assembly of JA-2 propellant; assembly of the primer o-ring with silicone grease; assembly of the black powder and JA-2 propellant into the ammunition; painting the ammunition and stenciling the shipping containers with paint and thinner with xylene used for cleanup; using dry mopping and/or mineral spirits for general housekeeping; and using fuel oil for scrap out of waste black powder and primers. The ammunition will then be packed out in metal boxes for shipment.

2.3.1 Production Wastes

Wastes which are anticipated to be generated are listed in Table 1. Section 4, Environmental Impact, includes a description of planned treatment or disposal of the wastes. Several of the wastes are hazardous wastes and/or hazardous substances as discussed in Section 4.

Section 3: Alternatives Considered

3.1 There are no alternatives considered to further enhance mitigation of the potential environmental impact with the exception of taking a "no action" alternative upon the proposed activity.

All potential environmental concerns for human health and the environment have been addressed as an integral part of the proposed action based upon regulatory requirements/obligations that are imposed upon the proposed activity, both in the construction and the production phase, which results in no significant impact.

3.2 A "no action" alternative would not benefit the area economy and would not contribute to the readiness of this nation's defense system.

Section 4: Environmental Impact

4.1 Introduction

Section 4 describes the anticipated impacts from construction and production activities involved in the 120MM M829E2 LAP process. The presentation is organized by Construction and Production phases and the type of impact anticipated. Emissions, wastewater discharges, hazardous waste handling, and other effects are compared with applicable standards and criteria to determine whether the effect constitutes a significant environmental impact.

4.2 Construction Phase

4.2.1 Natural Systems

4.2.1.1 Air

There will be localized emissions of two (2) types of pollutants from construction activities: dust from general activity at the complex such as movement of vehicles and equipment and volatile organic compounds from interior painting. None of the emissions can be considered a significant impact because they will generally be contained at the site and will be of minimal duration. No controls on particulate matter or hydrocarbons during the constuction phase will be required.

4.2.1.2 Soils and Geological Features

There will be no significant impacts on soils at the Olin complex because planned construction does not involve any major excavation.

4.2.1.3 Water Quality

There will be no significant impact due to stormwater runoff during construction.

4.2.1.4 Aquatic and Terrestrial Ecology

There will be no significant impact on aquatic or terrestrial species during construction. Construction activities will be minimal and should not disturb the ecological habitat. In addition, there are no water bodies located within the complex.

4.2.2 Cultural Features

4.2.2.1 Construction Employment

The construction contractor and subcontractors which will provide labor for the construction of the proposed action are located either in Williamson County or in adjacent counties. Therefore, there will be a short-term beneficial impact on employment during the construction phase. It is anticipated that the need for construction workers will not require significant hiring activity by any of the contractors.

4.2.2.2 Historic and Archeologic Resources

No sites or buildings within the complex have been listed on, or are known to be eligible for, the National Register of Historic Places. The Olin complex may have been occupied by farms prior to the 1940's. Since that time Olin has conducted construction and production activities and has not located any historical resources which may have existed at the site (Reference Section 2.1).

4.2.2.3 Other

No discernible effect is expected from construction on adjacent public roads or other cultural systems. Construction activity will not require movement of significant quantities of equipment and material nor generate significant traffic on or near the facility. The facility access points (one on the south and one on the north perimeter) are sufficient for anticipated construction traffic. Internal traffic is minimal within the facility and adequate parking areas are available.

4.3 Production Phase

4.3.1 Natural Systems

4.3.1.1 Air

Operation of the new boiler will involve the emissions of particulate matter, nitrogen oxide, and carbon monoxide from combustion of natural gas. However, due to the size of the boiler and the use of natural gas, emissions will be insignificant. The boiler will require a permit from the Illinois EPA.

Painting operations using not in excess of 5000 gallons of paint (including thinner) per year and printing operations using less than 750 gallons of organic solvents per year are exempt from permit requirements by the Illinois EPA. Materials used in the paint and cure operation, paint repair, and box stencilling will be less than the regulatory limitation and, accordingly, insignificant. Therefore, no permit will be required.

The remaining air emission sources include the adhesive application in the projectile/adapter assembly and cartridge assembly with acetone used for cleanup; solvent storage cabinet; JA-2 propellant assembly and oven; cleanup with mineral spirits; adding fuel oil in scrap explosives; and the rest rooms and change areas. The emissions from these operations should be insignificant. No air permits are expected to be required.

4.3.1.2 Water Quality

Wastewater generated from the proposed action will include the lavatory and the boiler blowdown. The wastewater may include sanitary waste, and traces of phosphate, sodium hydroxide, cyclohexylamine, and sodium sulfite from the boiler blowdown. Wastewater will be discharged into the Crab Orchard Fish and Wildlife Refuge wastewater treatment facility capable of treating these wastewater streams. No permits are required from the Illinois EPA and no significant impact on receiving streams is anticipated.

It is possible that unanticipated spills of explosives or solvents could occur during production, transport, or storage. Because some of the materials are listed as hazardous substances (Reference Table 1), these unplanned releases could impact the human and natural environment. Spill plans, waste procedures, and government reporting requirements are in place at the facility in the event of such an incident.

4.3.1.3 Waste

The anticipated waste streams resulting from these proposed activities are listed in Table I.

Olin has the capability to store and treat any resulting explosive waste at its thermal treatment facility located approximately seven (7) miles from the proposed activity.

All other wastes will be treated or disposed at permitted off-site facilities. The waste generation will be minimal and not result in a significant impact to the capacity of Olin's storage and thermal treatment facilities or off-site facilities. None of the waste streams should cause an environmental impact at the treatment or disposal facilities. The proper shipping permits will be obtained prior to shipment of wastes off-site.

Off-spec projectiles containing depleted uranium will be returned to the vendor. No other radioactive waste is anticipated.

4.3.1.4 Aquatic and Terrestrial Ecology

For the same reasons as described in 4.2.1.4, no significant impact is anticipated.

4.3.1.5 Soils

None of the production or thermal treatment operations take place directly on the ground. Therefore, there will be no significant impact on soils.

It is possible that unanticipated spills of explosives or solvents could occur during production, transport, or storage. Because some of the materials are listed as hazardous substances, these unplanned releases could impact the human and natural environment. Spill plans, waste procedures, and government reporting requirements are in place at the facility in the event of such an incident.

4.3.2 Cultural Systems

4.3.2.1 Production Employment

Production of the 120MM M829E2 tank ammunition will result in a long-term increase in employment (approximately forty-five) at Olin and will be economically beneficial.

4.3.2.2 Emergency Services

Olin Corporation has emergency contingency plans on file with various local authorities, fire departments, ambulances, hospitals, and security services. As a consequence both of the pre-existing agreements and of the local authorities, no significant impact on emergency services in adjacent localities is expected.

4.4 No Action

Taking "no action" on the proposed action would have no beneficial effect and would adversely affect the nation's defense readiness. The potential impacts associated with the proposed action are insignificant; therefore, there is no compelling environmental reason to forego the proposed action.

Section 5: Applicable Agencies

The U.S. Fish and Wildlife Service was consulted in the preparation of this Environmental Assessment of the proposed action.

Section 6: Environmental Assessment Conclusion

Based on the above analysis, this Environmental Assessment for the proposed action results in a "Finding of No Significant Impact" (FNSI).

Section 7: Signatory Review and Concurrence

Signed _____ 11/18/88
Arthur Heinz, Jr. Date
Director
Olin - Marion Operations

Signed _____ 11/18/88
Darrell Marlow Date
Program Manager, 120MM M829E2
Olin - Marion Operations

Signed _____ 11/18/88
Ron Hliwa Date
Facilities Manager
Olin - Marion Operations

Signed _____ 11/18/88
Jean Schneiderman Date
Regulatory Compliance Supervisor
Olin - Marion Operations

TABLE 1

ANTICIPATED SOLID WASTE STREAMS

Explosives:

- JA-2 Propellant
- JA-2 Propellant Contaminated Material
- Black Powder
- Black Powder Contaminated Material
- Combustible Cartridge Cases
- Primers

Other:

- Adhesive
- Acetone
- Ink
- Thinner
- Xylene
- Paint
- Grease
- Mineral Spirits

Note: Contaminated material typically includes rags, gloves, etc.

FINDING OF NO SIGNIFICANT IMPACT (FNSI)

Name of the Proposed Action: Olin Corporation, as the proponent of action, is proposing to utilize the "B,D,F" complex at the Marion Operations plant, Marion, Illinois, for purposes of manufacturing modified conventional tank ammunition (120MM M829E2) in support of the U.S. Department of Defense ARDEC defense readiness system.

Description of the Proposed Action: The proposed activity would utilize the employment of approximately forty-five (45) people. It would incorporate minor renovation of existing facilities and construction of additional facilities prior to commencement of production. Production activities would include the load, assembly, and pack (LAP) of modified conventional tank ammunition. No alternatives were considered for the proposed action except taking "no action".

Anticipated Environmental Effects: The refurbishment of existing structures and construction of new facilities prior to production will result in general construction debris. There will be localized emissions of two (2) types of pollutants from construction activities: dust from general activity at the complex and volatile organic compounds from interior painting. These emissions will generally be contained at the complex and of a minimal duration. Production operations will generate explosive solids and the potential of solvent wastes. Olin has the capability to store and thermally treat any resulting explosive waste. All other wastes will be treated or disposed at permitted off-site facilities. Operation of a natural gas boiler will involve emissions of particulate matter, nitrogen oxide, and carbon monoxide. Volatile organic compound emissions will result from the paint and cure operation. There may be other air emissions from adhesive, acetone, mineral spirits, fuel oil, propellant, xylene, and ink utilized in the operation. Lavatory and boiler blowdown wastewater will be generated and effectively treated prior to entering the receiving stream. Unanticipated spills could occur and impact the human and natural environment.

Conclusions Leading to a Finding of No Significant Impact: An environmental assessment has been performed upon the proposed activity as prescribed within 32 CFR Sections 651.19 through 651.25. The assessment has concluded that there would be no potentially significant impact on human health or the environment based upon the review of the activities encompassed within the proposed action and the compliance with regulatory standards set forth under the Toxic Substances Control Act, Resource Conservation and Recovery Act, Historic Preservation Act, Endangered Species Act, Clean Air Act, Clean Water Act, Atomic Energy Act, and Occupational Safety and Health Act. The requirement for an Environmental Impact Statement is not anticipated.

Administration of Environmental Documentation: A copy of this "Finding of No Significant Impact" will only be distributed by Olin to the U.S. Department of Defense. Should the Department of Defense determine that further distribution is required, Olin Corporation should be notified in writing prior to distribution as follows:

Mr. Arthur Heinz, Jr., Director
Olin Corporation - Marion Operations
P.O. Box 278
Marion, Illinois 62959

Olin
ORDNANCE

MARION OPERATIONS

July 21, 1989

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62794-9276

Attention: Mr. Terry Sweitzer, P.E.
Manager, Permit Section

Reference: Operating Permit Renewal Application
I.D. No.: 199862AAB
Application No.: 84090038
Expiration Date: September 24, 1989

Dear Mr. Sweitzer:

Enclosed is an application for renewal of an operating permit, form number APC 205, for the above referenced application number. The operating permit is for an indirect heat boiler designated as BOIL-P-84.

Also, due to recent organizational changes, new Delegation of Authority letters are enclosed.

If further information or clarification is needed, please contact the undersigned.

Very truly yours,

R. R. Hudson
Manager, Administration

CCL/rmn

Enclosures

ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

is required under this section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center

APPLICATION FOR RENEWAL OF AN OPERATING PERMIT	FOR AGENCY USE ONLY
OPERATION OF: INDIRECT HEAT BOILER (A) (SAME AS 9c ON PAGE 2)	I. D. NO. ____ PERMIT NO. ____ DATE ____

1a. NAME OF OWNER: OLIN CORPORATION		2a. NAME OF OPERATOR: OLIN CORPORATION	
1b. STREET ADDRESS OF OWNER: P.O. BOX 278, ROUTE 148 SOUTH		2b. STREET ADDRESS OF OPERATOR: P.O. BOX 278, ROUTE 148 SOUTH	
1c. CITY OF OWNER: MARION		2c. CITY OF OPERATOR: MARION	
1d. STATE OF OWNER: ILLINOIS	1e. ZIP CODE: 62959	2d. STATE OF OPERATOR: ILLINOIS	2e. ZIP CODE: 62959

3a. NAME OF CORPORATE DIVISION OR PLANT: MARION OPERATIONS		3b. STREET ADDRESS OF EMISSION SOURCE: CRAB ORCHARD WILDLIFE REFUGE		
3c. CITY OF EMISSION SOURCE: RURAL MARION	3d. LOCATED WITHIN CITY LIMITS ☐ YES ☒ NO	3e. TOWNSHIP: N/A	3f. COUNTY: WILLIAMSON	3g. ZIP CODE: 62959

4. ALL CORRESPONDENCE TO: (TITLE AND/OR NAME OF INDIVIDUAL) R. R. HUDSON, MANAGER, ADMINISTRATION	5. TELEPHONE NUMBER FOR AGENCY TO CALL: (618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: ☒ OWNER ☐ OPERATOR ☐ EMISSION SOURCE	7. YOUR DESIGNATION FOR THIS APPLICATION: (B) B O I L - P - 8 4

8. THE UNDERSIGNED HEREBY MAKES APPLICATION FOR A PERMIT AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. BY AFFIXING HIS SIGNATURE HERETO HE FURTHER CERTIFIES THAT HE IS AUTHORIZED TO EXECUTE THIS APPLICATION.

AUTHORIZED SIGNATURE(S): (C)

BY [signature] 7/24/89
SIGNATURE DATE

R. R. HUDSON
TYPED OR PRINTED NAME OF SIGNER

MANAGER, ADMINISTRATION
TITLE OF SIGNER

BY ____ ____
SIGNATURE DATE

____
TYPED OR PRINTED NAME OF SIGNER

____
TITLE OF SIGNER

(A) THIS FORM IS TO PROVIDE THE AGENCY WITH GENERAL INFORMATION ABOUT THE EQUIPMENT TO BE OPERATED.

(B) PROVIDE A DESIGNATION IN ITEM 7 ABOVE WHICH YOU WOULD LIKE THE AGENCY TO USE FOR IDENTIFICATION OF YOUR EQUIPMENT. YOUR DESIGNATION WILL BE REFERENCED IN CORRESPONDENCE FROM THIS AGENCY RELATIVE TO THIS APPLICATION. YOUR DESIGNATION MUST NOT EXCEED TEN (10) CHARACTERS.

(C) THIS APPLICATION MUST BE SIGNED IN ACCORDANCE WITH PCB REGS., CHAPTER 2, PART 1, RULE 103(a)(4) OR 103(b)(5) WHICH STATES: "ALL APPLICATIONS AND SUPPLEMENTS THERETO SHALL BE SIGNED BY THE OWNER AND OPERATOR OF THE EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT, OR THEIR AUTHORIZED AGENT, AND SHALL BE ACCOMPANIED BY EVIDENCE OF AUTHORITY TO SIGN THE APPLICATION."

IF THE OWNER OR OPERATOR IS A CORPORATION, SUCH CORPORATION MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF THE CORPORATION'S BOARD OF DIRECTORS AUTHORIZING THE PERSONS SIGNING THIS APPLICATION TO CAUSE OR ALLOW THE CONSTRUCTION OR OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

CCV Int

001434

DATA AND INFORMATION INCORPORATED BY REFERENCE FROM CURRENT OPERATING PERMIT

9a. APPLICATION NO.: 8 4 0 9 0 0 3 8

9b. I.D. NO.: 1 9 9 8 6 2 A A B

9c. OPERATION OF: INDIRECT HEAT BOILER

9d. LOCATION: RURAL MARION

9e. PERMIT EXPIRATION DATE: 0 9 2 4 8 9

9f. HAS THE OPERATION AS DESCRIBED IN THE REFERENCED OPERATING PERMIT BEEN MODIFIED* AS DEFINED IN RULE 101 OF THE PCB REGS., CHAPTER 2, PART 1? ☐ YES ☒ NO

9g. IF "YES" SUBMIT THE APPLICABLE FORMS OR DESCRIBE IN DETAIL THE MODIFICATION OF THE OPERATION.

9h. DATE THE OPERATION WAS MODIFIED: N/A

10a. IF THE OPERATION IS SUBJECT TO A RULE WHOSE EFFECTIVE DATE IS ON OR BEFORE THE DATE OF THIS APPLICATION, IS SUCH OPERATION IN FULL COMPLIANCE WITH ALL SUCH RULES? ☒ YES ☐ NO

10b. IF "NO", EXPLAIN: N/A

11. IF YOUR OPERATING PERMIT APPLICATION CONTAINS COMPLIANCE PROGRAM(S), HAS THIS COMPLIANCE PROGRAM BEEN COMPLETED AND HAVE ALL THE PROJECT COMPLETION REPORTS (APC-271) BEEN SUBMITTED? N/A ☐ YES ☐ NO

12a. ARE YOU IN COMPLIANCE WITH ALL CONDITIONS OF ALL REFERENCED PERMITS? ☒ YES ☐ NO

12b. IF "NO", EXPLAIN:
N/A

*MODIFICATION: ANY PHYSICAL CHANGE IN, OR CHANGE IN THE METHOD OF OPERATION, OF AN EMISSION SOURCE OR OF AIR POLLUTION CONTROL EQUIPMENT WHICH INCREASES THE AMOUNT OF ANY SPECIFIED AIR CONTAMINANT EMITTED BY SUCH SOURCE OR EQUIPMENT OR WHICH RESULTS IN THE EMISSION OF ANY SPECIFIED AIR CONTAMINANT NOT PREVIOUSLY EMITTED. IT SHALL BE PRESUMED THAT AN INCREASE IN THE USE OF RAW MATERIALS, THE TIME OF OPERATION, OR THE RATE OF PRODUCTION WILL CHANGE THE AMOUNT OF ANY SPECIFIED AIR CONTAMINANT EMITTED. NOTWITHSTANDING ANY OTHER PROVISIONS OF THIS DEFINITION, FOR PURPOSES OF PERMITS ISSUED PURSUANT TO RULE 103, THE AGENCY MAY SPECIFY CONDITIONS UNDER WHICH AN EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT MAY BE OPERATED WITHOUT CAUSING A MODIFICATION AS HEREIN DEFINED, AND NORMAL CYCLICAL VARIATIONS, BEFORE THE DATE OPERATING PERMITS ARE REQUIRED, SHALL NOT BE CONSIDERED MODIFICATIONS. PCB REGS., CHAPTER 2, PART 1, RULE 101.

NOTE: TO INCORPORATE OTHER CONSTRUCTION PERMITS BY REFERENCE, ATTACH A LISTING OF SUCH PERMITS USING THE FORMAT SET FORTH IN ITEM 9 OR APC-210, "DATA AND INFORMATION -- INCORPORATION BY REFERENCE."

Illinois Environmental Protection Agency 2200 Churchill Road, Springfield, IL 62706

Recd 10-5-84 MUB

217/782-2113

JOINT CONSTRUCTION AND OPERATING PERMIT

PERMITTEE

Olin Corp.
P.O. Drawer G
Marion, IL 62959

Attention: G. W. Barton

Application No.: 84090038
Applicant's Designation: BOIL-P-84
Subject: INDRECT HEAT BOILER
Date Issued: September 27, 1984

Location: Rural Marion

I.D. No.: 199862AAB
Date Received: September 19, 1984

Operating Permit Expiration Date: September 24, 1989

Permit is hereby granted to the above-designated Permittee to CONSTRUCT and OPERATE emission source(s) and/or air pollution control equipment consisting of a indrect heat boiler as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Operation of the emission source(s) included in this permit shall not begin until all associated air pollution control equipment has been constructed and is operational.

2. Emissions of particulate matter (TSP), carbon monoxide (C.O.) and nitrogen dioxide (NOx) shall not exceed 0.3, 0.6 and 6.1 tons/yr, respectively. These limits are based on standard emission factors, firing of a gas boiler at the maximum firing rate (8.37 mm btu/yr), and the maximum hours of operation indicated in the permit application.

Bharat Mathur, P.E.
Manager, Permit Section
Division of Air Pollution Control

BM:DMH:st:1926d/13

cc: Region 3

RECEIVED
OCT 8 1984
J. SCHNEIDERMAN

001436

Olin

P O DRAWER G, MARION, ILLINOIS 62959 • PHONE AC 618 985-8211

ORDNANCE PRODUCTS

14 September 1984

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

ATTENTION: Mr. Bharat Mathur, Permits Section

Dear Mr. Mathur:

In compliance with Title 35: Environmental Protection, Subtitle B: Air Pollution, Chapter I: Pollution Control Board, Part 201, enclosed herewith are provided three copies of a Construction and Operating Permit Application for the installation and operation of an indirect heat boiler in the area Olin Corporation designates as the "P" Area.

This new boiler designated as BOIL-P-84 would replace equipment, that was destroyed by fire 14 June 1984. Since the equipment was destroyed, it is requested that the permit be withdrawn, i.e. Permit I.D. Number 199862AAB P-80-1.

In compliance with Part 201, also enclosed herewith are provided three copies of a Construction Permit Application for the removal of an indirect heat boiler in the area Olin Corporation designates as the "P" Area and relocation to the area designated as the "B" Area. This boiler now designated as BOIL-B2384 in the Construction Permit Application, has an operating permit, i.e. Permit I.D. No. 199862AAB BOIL P-1-11. It is requested that the operating permit remain. APC 240 has been included to address changes and supersedes the original permit application information.

Per telephone conversations with Mr. Chris Romaine, IEPA Permits Section, on September 11 and 13, 1984, the situation was discussed. Mr. Romaine advised Olin as to how best to handle the situation and what IEPA forms should be completed, including the fact that a Construction and Operating Permit Application Form APC 200 could be "marked" for both.

If additional information or clarification is needed, please contact the undersigned at 618/985-8211.

Cordially yours,

G.W. Barton, P.E.
Manager, Regulatory Complaince

JMS:GWB/kc

Enclosures: 1.) 3 copies APC 200 Construct/Operate Permit Application (BOIL-P-84)

2.) 3 copies APC 200 Construct Permit Application (BOIL-B2384)

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter III 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

APPLICATION FOR A PERMIT(A)

[X] CONSTRUCT [X] OPERATE

NAME OF EQUIPMENT TO BE CONSTRUCTED OR OPERATED: INDIRECT HEAT BOILER (B)

FOR AGENCY USE ONLY

I. D. NO.

PERMIT NO.

DATE

1a. NAME OF OWNER: OLIN CORPORATION			2a. NAME OF OPERATOR: OLIN CORPORATION	
1b. STREET ADDRESS OF OWNER: P.O. DRAWER G			2b. STREET ADDRESS OF OPERATOR: P.O. DRAWER G	
1c. CITY OF OWNER: MARION			2c. CITY OF OPERATOR: MARION	
1d. STATE OF OWNER: ILLINOIS	1e. ZIP CODE: 62959		2d. STATE OF OPERATOR: ILLINOIS	2e. ZIP CODE: 62959

3a. NAME OF CORPORATE DIVISION OR PLANT: ORDNANCE PRODUCTS			3b. STREET ADDRESS OF EMISSION SOURCE: CRAB ORCHARD WILDLIFE REFUGE	
3c. CITY OF EMISSION SOURCE: RURAL MARION	3d. LOCATED WITHIN CITY LIMITS: [ ] YES [X] NO	3e. TOWNSHIP: N/A	3f. COUNTY: WILLIAMSON	3g. ZIP CODE: 62959

4. ALL CORRESPONDENCE TO: (TITLE AND/OR NAME OF INDIVIDUAL) G.W. BARTON-MGR. REGULATORY COMPLIANCE	5. TELEPHONE NUMBER FOR AGENCY TO CALL: (618) 985-8211
6. ADDRESS FOR CORRESPONDENCE: (CHECK ONLY ONE) [X] OWNER: [ ] OPERATOR [ ] EMISSION SOURCE	7. YOUR DESIGNATION FOR THIS APPLICATION: (C) B O I L - P - 8 4

8. THE UNDERSIGNED HEREBY MAKES APPLICATION FOR A PERMIT AND CERTIFIES THAT THE STATEMENTS CONTAINED HEREIN ARE TRUE AND CORRECT, AND FURTHER CERTIFIES THAT ALL PREVIOUSLY SUBMITTED INFORMATION REFERENCED IN THIS APPLICATION REMAINS TRUE, CORRECT AND CURRENT. BY AFFIXING HIS SIGNATURE HERETO HE FURTHER CERTIFIES THAT HE IS AUTHORIZED TO EXECUTE THIS APPLICATION.

AUTHORIZED SIGNATURE(S): (D)

BY [signature] SIGNATURE 9/18/84 DATE

ARTHUR HEINZ, JR.
TYPED OR PRINTED NAME OF SIGNER

DIRECTOR
TITLE OF SIGNER

BY SIGNATURE DATE

TYPED OR PRINTED NAME OF SIGNER

TITLE OF SIGNER

(A) THIS FORM IS TO PROVIDE THE AGENCY WITH GENERAL INFORMATION ABOUT THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS FORM MAY ONLY BE USED TO REQUEST ONE TYPE OF PERMIT - CONSTRUCTION OR OPERATION - AND NOT BOTH.

(B) ENTER THE GENERIC NAME OF THE EQUIPMENT TO BE CONSTRUCTED OR OPERATED. THIS NAME WILL APPEAR ON THE PERMIT WHICH MAY BE ISSUED PURSUANT TO THIS APPLICATION. THIS FORM MUST BE ACCOMPANIED BY OTHER APPLICABLE FORMS AND INFORMATION.

(C) PROVIDE A DESIGNATION IN ITEM 7 ABOVE WHICH YOU WOULD LIKE THE AGENCY TO USE FOR IDENTIFICATION OF YOUR EQUIPMENT. YOUR DESIGNATION WILL BE REFERENCED IN CORRESPONDENCE FROM THIS AGENCY RELATIVE TO THIS APPLICATION. YOUR DESIGNATION MUST NOT EXCEED TEN (10) CHARACTERS.

(D) THIS APPLICATION MUST BE SIGNED IN ACCORDANCE WITH PCB REGS., CHAPTER 2, PART 1, RULE 103(a)(4) OR 103(b)(5) WHICH STATES: "ALL APPLICATIONS AND SUPPLEMENTS THERETO SHALL BE SIGNED BY THE OWNER AND OPERATOR OF THE EMISSION SOURCE OR AIR POLLUTION CONTROL EQUIPMENT, OR THEIR AUTHORIZED AGENT, AND SHALL BE ACCOMPANIED BY EVIDENCE OF AUTHORITY TO SIGN THE APPLICATION."

IF THE OWNER OR OPERATOR IS A CORPORATION, SUCH CORPORATION MUST HAVE ON FILE WITH THE AGENCY A CERTIFIED COPY OF A RESOLUTION OF THE CORPORATION'S BOARD OF DIRECTORS AUTHORIZING THE PERSONS SIGNING THIS APPLICATION TO CAUSE OR ALLOW THE CONSTRUCTION OR OPERATION OF THE EQUIPMENT TO BE COVERED BY THE PERMIT.

9. DOES THIS APPLICATION CONTAIN A PLOT PLAN/MAP.
☒ YES ☐ NO SEE PAGE 3 OF 16
IF A PLOT PLAN/MAP HAS PREVIOUSLY BEEN SUBMITTED, SPECIFY:
AGENCY I.D. NUMBER _ _ _ _ _ _ _ _ _ _ APPLICATION NUMBER _ _ _ _ _ _ _ _
IS THE APPROXIMATE SIZE OF APPLICANT'S PREMISES LESS THAN 1 ACRE?
☐ YES ☒ NO SPECIFY 34.56 ACRES

10. DOES THIS APPLICATION CONTAIN A PROCESS FLOW DIAGRAM(S) THAT ACCURATELY AND CLEARLY REPRESENTS CURRENT PRACTICE.
☒ YES ☐ NO
SEE PAGE 4 OF 16

11a. WAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, OWNED OR CONTRACTED FOR, BY THE APPLICANT PRIOR TO APRIL 14, 1972.
☐ YES ☒ NO
IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT A, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT WAS IN COMPLIANCE WITH THE RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION PRIOR TO APRIL 14, 1972.

11b. HAS ANY EQUIPMENT, COVERED BY THIS APPLICATION, NOT PREVIOUSLY RECEIVED AN OPERATING PERMIT:
☒ YES ☐ NO SEE PAGE 5 OF 16
IF "YES", ATTACH AN ADDITIONAL SHEET, EXHIBIT B, THAT:
(a) LISTS OR DESCRIBES THE EQUIPMENT
(b) STATES WHETHER THE EQUIPMENT
(i) IS ORIGINAL OR ADDITIONAL EQUIPMENT
(ii) REPLACES EXISTING EQUIPMENT, OR
(iii) MODIFIES EXISTING EQUIPMENT
(c) PROVIDES THE ANTICIPATED OR ACTUAL DATES OF THE COMMENCEMENT OF CONSTRUCTION AND THE START-UP OF THE EQUIPMENT

12. IF THIS APPLICATION INCORPORATES BY REFERENCE A PREVIOUSLY GRANTED PERMIT(S), HAS FORM APC-210, "DATA AND INFORMATION--INCORPORATION BY REFERENCE" BEEN COMPLETED.
☐ YES ☒ NO

APPLICATION FOR OPERATING PERMIT ONLY

13. DOES THE STARTUP OF AN EMISSION SOURCE COVERED BY THIS APPLICATION PRODUCE AIR CONTAMINANT EMISSION IN EXCESS OF APPLICABLE STANDARDS.
☐ YES ☒ NO
IF "YES," HAS FORM APC-203, "OPERATION DURING STARTUP" BEEN COMPLETED FOR THIS SOURCE:
☐ YES ☐ NO

14. DOES THIS APPLICATION REQUEST PERMISSION TO OPERATE AN EMISSION SOURCE DURING MALFUNCTIONS OR BREAKDOWNS:
☐ YES ☒ NO
IF "YES," HAS FORM APC-204, "OPERATION DURING MALFUNCTION AND BREAKDOWN" BEEN COMPLETED FOR THIS SOURCE:
☐ YES ☐ NO

15. IS AN EMISSION SOURCE COVERED BY THIS APPLICATION SUBJECT TO A FUTURE COMPLIANCE DATE:
☐ YES ☒ NO
IF "YES," HAS FORM APC-202, "COMPLIANCE PROGRAM & PROJECT COMPLETION SCHEDULE," BEEN COMPLETED FOR THIS SOURCE.
☐ YES ☐ NO

16. DOES THE FACILITY COVERED BY THIS APPLICATION REQUIRE AN EPISODE ACTION PLAN (REFER TO GUIDELINES FOR EPISODE ACTION PLANS).
☐ YES ☒ NO

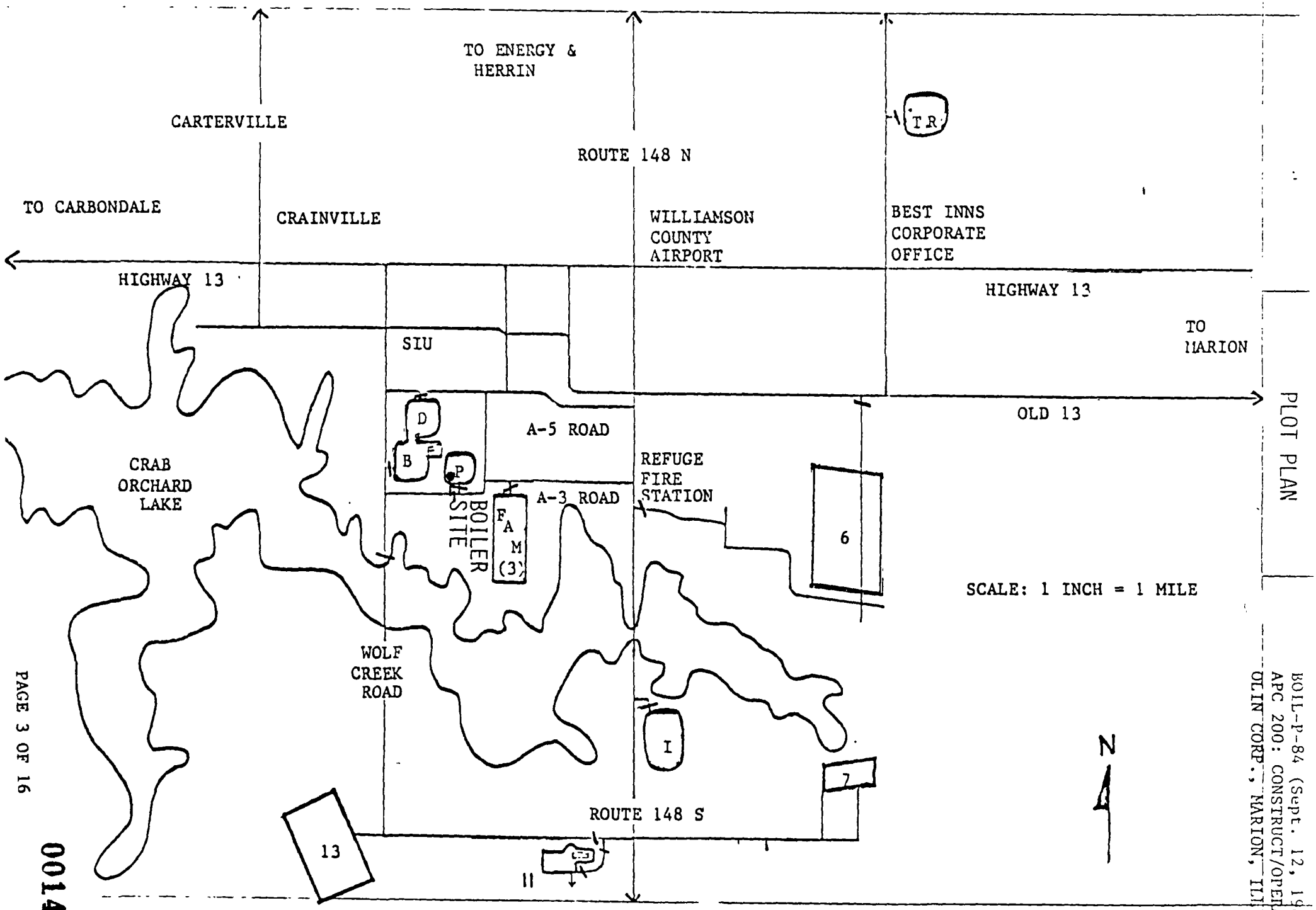
17. WAS THIS OPERATION THE SUBJECT OF A VARIANCE PETITION FILED WITH THE ILLINOIS POLLUTION CONTROL BOARD ON OR BEFORE JUNE 13, 1972.
☐ YES ☒ NO
IF "YES," CITE PCB NUMBER(S) _____, DATE OF BOARD ORDER _____

WAS CONSTRUCTION OR MODIFICATION OF EQUIPMENT, SUFFICIENT TO ACHIEVE COMPLIANCE WITH THE "RULES AND REGULATIONS GOVERNING THE CONTROL OF AIR POLLUTION" EFFECTIVE PRIOR TO APRIL 14, 1972, COMMENCED PRIOR TO APRIL 14, 1972:
☐ YES ☒ NO
IF "YES," EXPLAIN IN DETAIL, AND IDENTIFY EXPLANATION AS EXHIBIT D.

18. LIST AND IDENTIFY ALL FORMS, EXHIBITS, AND OTHER INFORMATION SUBMITTED AS PART OF THIS APPLICATION. INCLUDE THE PAGE NUMBERS ON EACH ITEM (ATTACH ADDITIONAL SHEETS IF NECESSARY).

	PAGE NUMBER
APC 200	1, 2
PLOT PLAN	3
PROCESS FLOW DIAGRAM	4
EXHIBIT B	5
APC 240	6, 7, 8
CERTIFICATE OF LOCAL ZONING APPROVAL	9
ADDENDUM	10
DELEGATION OF AUTHORITY	11, 12, 13, 14, 15, 16

TOTAL NUMBER OF PAGES 16



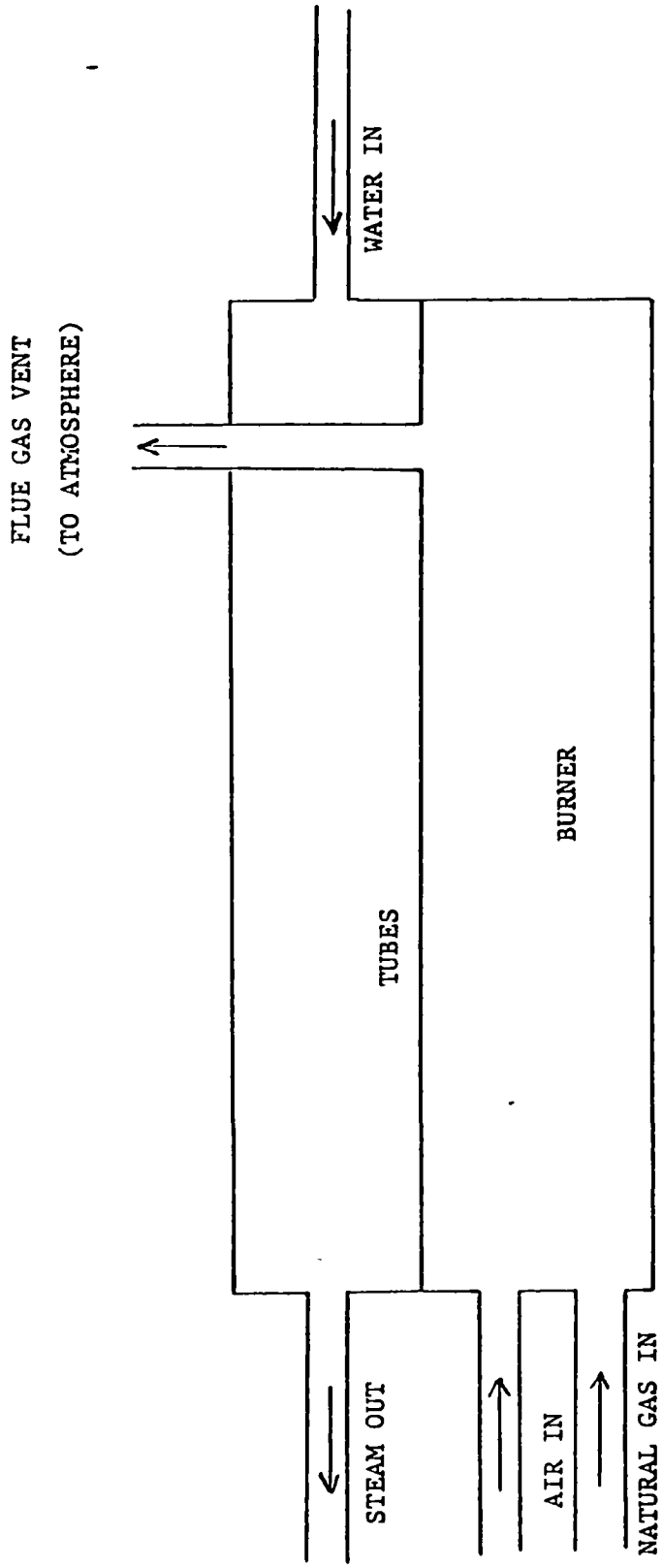
PLOT PLAN

BOIL-P-84 (Sept. 12, 1984)
APC 200: CONSTRUCT/OPERATE
OLIN CORP., MARION, ILLINOIS

001441

PROCESS FLOW DIAGRAM

INDIRECT HEAT BOILER



FIRING RATE:

AVE. 1,019,400 BTU/HR
MAX. 8,370,000 BTU/HR

001442

EXHIBIT B

a.) DESCRIPTION OF EQUIPMENT:

The equipment to be used in the "P" Area is an indirect heat boiler that produces steam for production processes.

b.) EQUIPMENT STATUS:

This boiler will be replacing existing equipment (Permit I.D. Number 199862AAB P-80-1).

c.) ANTICIPATED DATES OF COMMENCEMENT OF CONSTRUCTION AND START UP:

The equipment is expected to be delivered the week of September 17, 1984, or sooner, and will be constructed and then operated as soon as the permits are granted.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

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*DATA AND INFORMATION FUEL COMBUSTION EMISSION SOURCE	BOIL-P-84 (Sept. 12, 1984) APC 200: CONSTRUCT/OPERATE OLIN CORP., MARION, ILLINOIS

*THIS INFORMATION FORM IS TO BE COMPLETED FOR A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED FOR THE PRIMARY PURPOSE OF PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN EMISSION SOURCE THAT DOES NOT FIT THIS DESCRIPTION, INCLUDING AN EMISSION SOURCE USING DIRECT HEATING, IS EITHER A PROCESS EMISSION SOURCE OR AN INCINERATOR.

1. NAME OF OWNER:	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER):
OLIN CORPORATION	ORDNANCE PRODUCTS
3. STREET ADDRESS OF EMISSION SOURCE:	4. CITY OF EMISSION SOURCE:
CRAB ORCHARD WILDLIFE REFUGE	RURAL MARION, ILLINOIS

GENERAL INFORMATION

5. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE:
SEE PAGE 4 OF 16 BOIL-P-84

6. MANUFACTURER:	7. MODEL NUMBER:	8. SERIAL NUMBER:
CLEAVER-BROOKS	CB700-200-150	L078997

9. AVERAGE OPERATING TIME OF EMISSION SOURCE:	10. MAXIMUM OPERATING TIME OF EMISSION SOURCE:
24 HRS/DAY 7 DAYS/WK 50 WKS/YR	24 HRS/DAY 7 DAYS/WK 52 WKS/YR

11. PERCENT OF ANNUAL HEAT INPUT:
DEC-FEB 32 % MAR-MAY 27 % JUN-AUG 18 % SEP-NOV 23 % (1983)

INSTRUCTIONS

1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.
2. COMPLETE THE APPROPRIATE FUEL SECTION OR SECTIONS. IF MORE THAN ONE FUEL IS FIRED OR IF THE CAPABILITY EXISTS TO FIRE MORE THAN ONE FUEL, THE ACTUAL USAGE OF FUELS AND THE RELATIONSHIP BETWEEN FUELS, SIMULTANEOUS FIRING, ALTERNATE FIRING, RESERVE FUEL, ETC., MUST BE MADE CLEAR.
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.
4. FIRING RATES AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES.
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.

DEFINITIONS

AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF HEAT PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD.
AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME.
AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.

MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FROM THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST HEAT PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:
MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATION FOR ANY TWELVE MONTH PERIOD.
MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION.
MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.

GAS FIRING

*11. ORIGIN OF GAS: ☐ PIPELINE ☐ DISTILLATE FUEL OIL GASIFICATION ☐ OTHER LIQUID FUEL GASIFICATION ☐ SOLID FUEL GASIFICATION ☐ BYPRODUCT· SPECIFY SOURCE N/A

12. ARE YOU ON AN INTERRUPTABLE GAS SUPPLY: ☐ YES ☒ NO
IF "YES", SPECIFY ALTERNATE FUEL: _____

13. ANNUAL CONSUMPTION: (1983)	* 14. HEAT CONTENT:	* 15. SULFUR CONTENT:
8,563,000 SCF	N/A BTU/SCF	N/A %BY WT.

16. AVERAGE FIRING RATE: (1983)	17. MAXIMUM FIRING RATE:
1,019,400 BTU/HR	8,370,000 BTU/HR

*IF THE GAS FIRED IS NATURAL GAS, THESE ITEMS NEED NOT BE COMPLETED.

OIL FIRING N/A

18. TYPE OF OIL:
GRADE NUMBER: ☐ 1 ☐ 2 ☐ 4 ☐ 5 ☐ 6 OTHER: SPECIFY _____

19. ANNUAL CONSUMPTION:	20. HEAT CONTENT:
GALLONS	☐ BTU/LB ☐ BTU/GAL
21. SULFUR CONTENT:	22. ASH CONTENT:
%BY WT	%BY WT

23. DIRECTION OF FIRING:
☐ HORIZONTAL ☐ TANGENTIAL ☐ OTHER: SPECIFY _____

24. AVERAGE FIRING RATE·	25. MAXIMUM FIRING RATE:
BTU/HR	BTU/HR

SOLID FUEL FIRING N/A

26. TYPE OF SOLID FUEL:
☐ SUB-BITUMINOUS COAL ☐ BITUMINOUS COAL ☐ ANTHRACITE COAL ☐ OTHER: SPECIFY

27. ANNUAL CONSUMPTION·	28. HEAT CONTENT AS FIRED:
TONS	BTU/LB

29. MOISTURE CONTENT AS FIRED:	30. ASH CONTENT AS FIRED:	31. SULFUR CONTENT AS FIRED:
%BY WT	%BY WT	%BY WT

32. TYPE OF FIRING:
☐ CYCLONE ☐ PULVERIZED { ☐ WET BOTTOM OR ☐ DRY BOTTOM, ☐ HORIZONTALLY OPPOSED OR ☐ OTHER: SPECIFY _____

☐ SPREADER STOKER: % REINJECTION _____ ☐ OTHER: SPECIFY _____

33. AVERAGE FIRING RATE:	34. MAXIMUM FIRING RATE:
BTU/HR	BTU/HR

SUBMIT COPIES OF THOSE PORTIONS OF COAL OR OTHER SOLID FUEL CONTRACTS WHICH SET FORTH THE SPECIFICATIONS OF THE FUEL AND THE DURATION OF THE CONTRACT. IF THE ACTUAL FUEL FIRED IS A BLEND OF SOLID FUELS, SUBMIT APPROPRIATE PORTIONS OF ALL FUEL CONTRACTS AND SET FORTH THE MANNER IN WHICH THE FUELS ARE BLENDED AND ACTUALLY FIRED. REFERENCE THIS INFORMATION TO THIS FORM.

*EMISSION INFORMATION N/A

35. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED):

One

AVERAGE OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE N/A		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE N/A
PARTICULATE MATTER	36a. GR/SCF	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
CARBON MONOXIDE	37a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
NITROGEN OXIDES	38a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
ORGANIC MATERIAL	39a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
SULFUR DIOXIDE	40a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.

MAXIMUM OPERATION

CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE N/A		METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE N/A
PARTICULATE MATTER	41a. GR/SCF	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
CARBON MONOXIDE	42a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
NITROGEN OXIDES	43a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
ORGANIC MATERIAL	44a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.
SULFUR DIOXIDE	45a. PPM (VOL)	b. ☐ LB/10^6 BTU ☐ LB/HR	c.

*IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT, OR IF NATURAL GAS IS THE FUEL FIRED, ITEMS 36 THROUGH 47 NEED NOT BE COMPLETED.

**EXHAUST POINT INFORMATION

46. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

N/A

47. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

N/A

48. EXIT HEIGHT ABOVE GRADE: 25 FT.	50. EXIT DIAMETER: 16 IN.
49. GREATEST HEIGHT OF NEARBY BUILDINGS: 30 FT	51. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: 200 FT
AVERAGE OPERATION	MAXIMUM OPERATION
52. EXIT GAS TEMPERATURE: (ESTIMATE) 338 °F	54. EXIT GAS TEMPERATURE: 450 °F
53. GAS FLOW RATE THROUGH EACH EXIT: (ESTIMATE) 275 ACFM	55. GAS FLOW RATE THROUGH EACH EXIT: (ESTIMATE) 2575 ACFM

**IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT THIS SECTION SHOULD NOT BE COMPLETED.

001446

CERTIFICATE OF LOCAL ZONING APPROVAL

This is to certify that the construction of an indirect heat boiler facility by the Olin Corporation located in Township 9S, Range 1 E, Section 24, 3rd P.M., Williamson County, Illinois, does not violate any Williamson County siting/zoning regulations. This also certifies that the Williamson County Board of Commissioners has local siting/zoning jurisdiction over the proposed facility and that the undersigned have authority to certify on behalf of the Williamson County Board of Commissioners.

Clarence Stocks, Chairman
of The Board

September 10, 1984
Date

William Mattingly
Williamson County Commissioner

September 10, 1984
Date

John Hamilton
Williamson County Commissioner

Date

ADDENDUM TO APC 200 - FOR CONSTRUCTION PERMITS ONLY

19.a. Certificate by Applicant(s)

P.A. 82-682 amended Section 39(c) of the Illinois Environmental Protection Act to provide in part:

> "...No permit for the development or construction of a new facility, other than a regional pollution control facility, may be granted by the Agency unless the applicant submits proof to the Agency that the applicant has secured all necessary zoning approvals from the unit of local government having zoning jurisdiction over the proposed facility." (emphasis added)

Accordingly, to demonstrate compliance with the requirements of P.A. 82-682, I hereby certify that:

(a) I/We have secured all necessary zoning approvals from the unit of local government having zoning furisdiction over the proposed facility, or (b) that said facility complies with local zoning requirements and further approval is not required, or (c) no unit of local government has zoning jurisdiction over the proposed facility.

19.b. NAME OF APPLICANT FOR PERMIT OR AUTHORIZATION TO CONSTRUCT

OLIN CORPORATION

P.O. DRAWER G	MARION	ILLINOIS	62959
STREET	CITY	STATE	ZIP

SIGNATURE Arthur Heinz, Jr.

NAME ARTHUR HEINZ, JR. ORGANIZATION OLIN CORPORATION-ORDNANCE PRODUCTS

TITLE DIRECTOR

001448

Illinois Environmental Protection Agency · P O Box 19276, Springfield, IL 62794-9276

217/782-2113

OPERATING PERMIT

PERMITTEE

Olin Corporation
Attn: R.R. Hudson
P.O. Drawer G
Marion, I L 62959

Application No.: 73030720
I.D. No.: 199862AAB
Applicant's Designation: H45655
Date Received: July 20, 1989
Subject: Indirect Heat Boiler
Date Issued: August 16, 1989
Expiration Date: July 13, 1994
Location: Crab Orchard Wildlife Refuge, Marion

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of an indirect heat boiler as described in the above-referenced application. This Permit is subject to standard conditions attached hereto.

Terry A. Sweitzer, P.E.
Manager, Permit Section
Division of Air Pollution Control

TAS:DMH:mab/429K/52

cc: Region 3

RECEIVED

AUG 23 1989

001449 J. SCHNEIDERMAN

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR OPERATING PERMITS

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special permit condition(s).

1. The issuance of this permit does not release the permittee from compliance with state and federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or with applicable local laws, ordinances and regulations.

2. The Agency has issued this permit based upon the information submitted by the permittee in the permit application. Any misinformation, false statement or mispresentation in the application shall be grounds for revocation under 35 Ill. Adm. Code 201.207.

3. a. The permittee shall not authorize, cause, direct or allow any modification, as defined in 35 Ill. Adm. Code 201.102, of equipment, operations or practices which are reflected in the permit application as submitted unless a new application or request for revision of the existing permit is filed with the Agency and unless a new permit or revision of the existing permit(s) is issued for such modification.

   b. This permit only covers emission sources and control equipment while physically present at the indicated plant location(s). Unless the permit specifically provides for equipment relocation, this permit is void for an item of equipment on the day it is removed from the permitted location(s) or if all equipment is removed, notwithstanding the expiration date specified on the permit.

4. The permittee shall allow any duly authorized agent of the Agency, upon the presentation of credentials, at reasonable times:

   a. to enter the permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,

   b. to have access to and to copy any records required to be kept under the terms and conditions of this permit,

   c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,

   d. to obtain and remove samples of any discharge or emission of pollutants, and

   e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring or recording any activity, discharge or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are located,

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the facilities,

c. does not take into consideration or attest to the structural stability of any unit or part of the project, and

d. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. The facilities covered by this permit shall be operated in such a manner that the disposal of air contaminants collected by the equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

7. The permittee shall maintain all equipment covered under this permit in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.

8. The permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment. This record shall be made available to any agent of the Environmental Protection Agency at any time during normal working hours and/or operating hours. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9. No person shall cause or allow continued operation during malfunction, breakdown or startup of any emission source or related air pollution control equipment if such operation would cause a violation of an applicable emission standard or permit limitation. Should a malfunction, breakdown or startup occur which results in emissions in excess of any applicable standard or permit limitation, the permittee shall:

   a. immediately report the incident to the Agency's Regional Field Operations Section Office by telephone, telegraph, or other method as constitutes the fastest available alternative, and shall comply with all reasonable directives of the Agency with respect to the incident;

   b. maintain the following records for a period of no less than two (2) years:

      i. date and duration of malfunction, breakdown or startup,

      ii. full and detailed explanation of the cause,

      iii. contaminants emitted and an estimate of quantity of emissions,

      iv. measures taken to minimize the amount of emissions during the malfunction, breakdown or startup, and

      v. measures taken to reduce future occurrences and frequency of incidents.

10. If the permit application contains a compliance program and project completion schedule, the permittee shall submit a project completion status report within thirty (30) days of any date specified in the compliance program and project completion schedule or at six month intervals, whichever is more frequent.

11. Beginning one year from the date of this permit the permittee shall submit an "Annual Emission Report," form APC-208, as required by 35 Ill. Adm. Code 201.302. (Note: If the permittee has other operating permits for this facility, the "Annual Emission Report" for all such permits may be included in a single annual submission.)

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ORDNANCE

MARION OPERATIONS

July 17, 1989

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62794-9276

Attention: Mr. Terry Sweitzer, P.E.
Manager, Permit Section

Reference: Operating Permit Renewal Application
I.D. No.: 199862AAB
Application No.: 73030720
Expiration Date: November 8, 1989

Dear Mr. Sweitzer:

Enclosed herewith is one operating permit renewal application with my signature. Upon review of the original application, changes were noted and they are indicated on the attachment to this letter. Also, due to recent organizational changes, copies of new Delegation of Authority letters are enclosed.

If further information or clarification is needed, please contact the undersigned.

Very truly yours,

R. R. Hudson
Manager, Administration

cc
CCL/rmn

Attachments

Illinois Environmental Protection Agency • P.O. Box 19276, Springfield, IL 62794-9276

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APPLICATION FOR OPERATING PERMIT RENEWAL 217/782-2113

JULY 3, 1990

DELTA CONSOLIDATED
ATTENTION: R.A. SMITH
P.O. BOX 370
MOLINE IL 61265

APPLICATION NO: 73 30724
I.D. NO. IL: 1630324AP
PERMIT TO OPERATE: INDIRECT HEAT BOILER
LOCATION: 4 BOILERS-MANUFACTURE PRODUCTS
MOLINE IL 61265

THE ABOVE REFERENCED OPERATING PERMIT WILL EXPIRE ON NOVEMBER 30, 1990. THE IEPA, FOR ONE YEAR THAT YOU APPLY FOR RENEWAL OF THIS OPERATING PERMIT BEFORE THAT DATE, (90) DAYS PRIOR TO ITS EXPIRATION.

IF ANY OF THE INFORMATION CONTAINED IN YOUR PERMIT NEEDS TO BE CHANGED, YOU MAY REQUEST SUCH CHANGES WHEN YOU APPLY FOR RENEWAL OF THE PERMIT BY STRIKING IN THE APPROPRIATE PLACE, ALERT A COPY FOR YOUR RECORDS, AND RETURN IT WITH YOUR APPLICATION TO THE IEPA. THE ALTERED PERMIT WILL BE REVIEWED BY THE AGENCY THEN A NEW PERMIT WILL BE ISSUED AND WILL BE RETURNED TO YOU.

THE AGENCY'S RECORDS INDICATE THAT THIS APPLICATION INCLUDES THE FOLLOWING EMISSION SOURCES AND CORRESPONDING CONTROL EQUIPMENT (IF ANY):

SOURCE NO.	CONTROL NO.	NAME(S)
001	1	INDIRECT HEAT BOILER AREA "BB"

IF YOUR OPERATION:
1) HAS BEEN MODIFIED; OR
2) HAS CHANGED FROM THE DESCRIPTION FILED WITH THE AGENCY; OR
3) INCLUDES EMISSION SOURCES OR CONTROL EQUIPMENT DIFFERENT FROM THAT WHICH IS GIVEN ABOVE;

THEN TO OBTAIN YOUR OPERATING PERMIT YOU MUST COMPLETE THE APPROPRIATE FORMS (SEE ENCLOSED "REQUEST FOR PERMIT FORMS" APC 200) AND APPLY FOR A PERMIT WITH AN APC 200 FORM.

IF THE OPERATION HAS BEEN PERMANENTLY DISCONTINUED OR PREVIOUSLY INCORPORATED INTO ANOTHER PERMIT, PLEASE ATTACH A LETTER TO THE AGENCY AUTHORIZING THIS PERMIT.

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PAGE

ID NUMBER: 199862AAG
APPLICATION NO.: 73030721

I CERTIFY THAT THE ORIGINAL APPLICATION INFORMATION REMAINS TRUE, CORRECT, AND CURRENT AND THAT I AM AUTHORIZED TO EXECUTE THIS APPLICATION FOR THE PERMIT RENEWAL.

[signature] 7/17/89

SIGNATURE DATE

R. R. HUDSON - MANAGER, ADMINISTRATION

PRINTED NAME AND TITLE OF SIGNER

----------FOR AGENCY USE ONLY----------

PERMIT EXPIRATION DATE:

PERMIT IS GRANTED TO OPERATE THE ABOVE REFERENCED EQUIPMENT SUBJECT TO STANDARD CONDITIONS ATTACHED HERETO AND ANY SPECIAL CONDITIONS OF THE PREVIOUS GRANTED OPERATING PERMIT.

TERRY [illegible], P.E.
MANAGER, PERMIT SECTION
DIVISION OF AIR POLLUTION CONTROL

CC: REGION 3[illegible]

Ins all

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