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MONSANTO INDUSTRIAL CHEMICALS CO.
1700 South Second Street
St. Louis, Missouri 63177
Phone: (314) 622-1400

MAY 1984
C. MO

May 24, 1984

Mr. David A. Wagoner
Director, Air and Waste Management Division
United States Environmental Protection Agency
324 East Eleventh Street
Kansas City, Missouri 64106

Dear Mr. Wagoner:

As per your request in your April 11, 1984 letter (received 4/13//84) regarding the Monsanto Company, Queeny Plant RCRA Part B, please find the enclosed information. It consists of copies of our (1) Waste Analysis Plan, (2) Contingency Plan, (3) Training Plan, (4) Closure Plan, and (5) Inspection Schedule. Copies of the above will also be sent to the Missouri Department of Natural Resources.

At the present time, the Queeny Plant's hourly work force is on strike. This work stoppage has been in effect since May 13, 1984 with no quick settlement in sight. Consequently, my efforts and those of all other management pesonnel have been directed solely at maintaining chemical production. Therefore, any questions that you or your staff may have will be delayed slightly. If you have questions, please leave a message at (314) 622-1600 or 1400, your call will be returned as quickly as possible. Since all work shifts are being staffed, not all personnel are available during normal working hours.

We sincerely appreciate your understanding of our situation and hope you bear with us until the work stoppage is over.

Yours very truly

Kenneth M. Perica

Kenneth M. Perica
Sr. Environmental
Protection Engineer

cc. John Doyle
Missouri Department of Natural Resource

R00107858
RCRA RECORDS CENTER
ACC#01

CLOSURE PLAN

STORAGE FACILITIES - TANKS

Facility Conditions

There are six storage tanks in the plant at the present time that store liquid hazardous wastes in bulk. These include the Azomethine (AZO) residue tank, the Phenol residue tank and the four Clarifier waste oil tanks.

The AZO residue is stored in an 18,000 gallon carbon steel tank. It is located at the southern end of the plant in the Alachlor manufacturing department.

The Phenol residue is stored in a 15,000 gallon carbon steel tank. It is located in the center of the plant adjacent to the Phosphate Ester manufacturing department.

The Waste Oil tanks are four identical 10,000 gallon carbon steel tanks. They are located at the eastern end of the plant and store oils removed at the clarifier.

Both residues are stored in site temporarily before being shipped off site (via tank truck) for incineration. At the present time, the residues are incinerated at either of two Rollins Environmental Services facilities located in Baton Rouge, Louisiana and Deer Park, Texas or Chemical Waste Management, Emelle, Alabama.

Waste Inventory Removal

At the time when either of the tanks will be closed and no longer used, the disposal facility will be contacted as soon as possible. Arrangements will be made for pick-up of the waste and transport to the incinerator. Rollins' truck normally arrives within 1-2 days after being called to pick up a waste shipment. Driving time to either of the incinerators is 1 day.

(1) AZO Residue

Assuming the tank is completely full and only one truck is available for shipment (i.e. worst conditions), it will take five trips to completely empty the tank. The time estimate for emptying the tank and transporting the waste completely off site is 15 working days.

Maximum Amount of Waste: 18,000 gallons

Waste Composition:

2,6 - Diethyl Azomethine	-	37%
2,6 - Diethylaniline	-	5%
TEA Salts of S-593	-	60%
Formaldehyde	--	5%

(2) Phenol Residue

Assuming the tank is completely full and only one truck is available for shipment (i.e. worst conditions), it will take four trips to completely empty the tank. The time estimate for emptying the tank and transporting the waste completely off site is 12 working days.

Maximum Amount of Waste: 15,000 gallons

Waste Composition:

Partial Esters/High Boilers	-	60%
Alkyl Phenol	-	10%
Phenol	-	30%
Isobutyl Acetate	-	1%

(3) Clarifier Waste Oil

Assuming the tank is completely full and only one truck is available for shipment (i.e. worst conditions), it will take three trips to completely empty the tank. The time estimate for emptying the tank is 12 working days. (each tank)

Maximum Amount of Waste: 10,000 gallons @, 4 tanks, 40,000 gallons

Waste Composition: Varies

Tank Decontamination and Disposal

Once any of the tanks are emptied of their residues, the entire tank, its piping network and pump will be disposed of at a chemical waste landfill. Any residues remaining in the tank or its appurtenances should be minimal. However, any additional residues will be drummed and disposed of. The exact quantities of such materials are impossible to estimate and will have to be determined at the time of actual closure. Once empty, each tank will be filled with water and then emptied. This material will also be hauled to the incinerator for disposal. Both areas in the plant where the residue storage tanks are located are concrete. Therefore, contaiminated soil removal is unnecessary. Any areas adjacent to the tank with signs of spills or leaks will be cleaned with appropriate solvents and the materials will be disposed of. The quantities of these materials are also impossible to quantify at this time.

The tank sites will then be put to use in another fashion to accommodate plant operations.

Pretreatment of Wastes

No pretreatment of either residue is needed prior to disposal at the incinerator.

Time Schedule

All storage facilities will be utilized as long as they are structurally sound and can carry out their intended functions. Therefore, specific dates indicating actual closure cannot be provided. This will be determined through routine inspections of the facility. Instead, time increments for completing closure activities have been provided.

		MAXIMUM TIME
(1)	Residue removal, transportation to the incinerator	15 working days
(2)	Rinse removal & transportion	15 working days
(3)	Tank dismantling	5-10 working days
(4)	Transport to landfill	5 working days

Cost Estimate

The cost estimate to implement the closure activities are:

(1)	AZO Residue	$ 59,000
(2)	Phenol Residue	$ 65,000
(3)	Clarifier Waste Oil	$213,000

STORAGE FACILITIES - DRUM STORAGE LOT

Facility Conditions

There is one storage area within the plant devoted to temporarily storing drums of hazardous wastes. It is located at the northern end of the plant and is 90 x 90 ft. in size. Prior to this it served as a storage area for pallets along with raw materials and process salvage for the entire plant. The storage area is completely paved by concrete and asphalt.

All wastes generated throughout the plant are eventually brought to this lot for storage. The various drums are then sorted and assembled for shipment out of the plant for final disposal. Presently, drums containing solid wastes are disposed of at:

(1) Rollins Environmental Services, Baton Rouge, LA
(2) Chemical Waste Management, Emelle, Alabama
(3) BHS, Inc., Wright City, MO

Drums containing liquids are incinerated at:

(1) Rollins Environmental Services, Deer Park, Texas
(2) Rollins Environmental Services, Baton Rouge, LA.
(3) Chemical Waste Management, Emelle, Alabama

Waste Inventory Removal

At the time when the drum lot is to be closed and no longer used, the various disposal outlets will be contacted so that shipments can be made. This is not much different than normal plant operations as drums are moved out of the plant within 90 days of actual generation.

On the average there are approximately 150-200 drums at any time on the storage lot. A truck can hold 75 drums; therefore, it will take 2-3 trucks to empty the lot of its wastes. Depending on the disposal outlet utilized, it normally takes 1-5 working days for a shipment to leave the plant once the disposal facility is contacted. Driving time to each of the disposal facilities is 1 day. Total time for the waste to leave the plant site and arrive at the disposal facility is 19 working days.

The composition of the waste can vary considerably as there are 127 differest waste streams registered with the State of Missouri. Details of the waste composition can be found in the EPG's files.

Storage Lot Decontamination

The drum lot is completely paved, therefore contaminated soil removal is unnecessary. The lot is inspected daily for leaks and spills of waste materials. If any are found, the materials are cleaned up as soon as possible. The drum lot, as such, is carefully maintained. However, at the time of closure, it will be examined again for spills or leaks of waste materials. Any areas noted to be contaminated will be cleaned and the materials will be drummed and disposed of. The exact quantities of such materials are impossible to estimate and will have to be determined at the time of actual closure.

The storage lot will then be put to use in another fashion to accommodate plant operation.

Pretreatment of Wastes

Not applicable.

Time Schedule

The drum storage lot will be utilized as long as it can function in this capacity. Therefore, specific dates indicating actual closure cannot be provided. This will be determined through routine inspections of the facility. Instead time increments for completing closure activities have been provided.

		MAXIMUM TIME
(1)	Drums removal, shipment to disposal facilities	19 working days
(2)	Storage lot clean-up	5 working days

Cost Estimate

The cost estimate for disposing of the average number of drums and closing this storage area out is $10,000.

WASTE ANALYSIS PLAN

The Queeny Plant produces a wide variety of chemical products which result in a large number of waste streams. Many of these waste streams are generated routinely and therefore have substantially more analytical data than others. Other wastes are generated only once and as a consequence, analytical data is limited.

1. Long Term Waste Streams

All waste streams that are generated and are expected to continue on a long term basis are analyzed for all physical and chemical properties. This includes:

1. Structural formula and chemical composition
2. Physical properties
3. Physical hazards (reactivity, flammability, generation of pressure)
4. Health hazards - human
5. Uses
6. Present or intended use
7. Health hazards - animals
8. Department of Transportion classification
9. Determine shipping instructions
10. Develop necessary labels

ACTIVE WASTE STREAMS

	ANALYTICAL METHOD	PARAMETERS
RESIDUES		
Azomethine	GC	% Assay
Phenol	GC	% Assay
WASTE SOLVENTS		
Aliphatic Solvents	IR & GC	% Assay
Aromatic Solvents	IR & GC	% Assay
Benzyl Chloride	GC	% Assay
Butyle Acetate	GC	% Assay
Chlorinated Solvents	IR & GC	% Assay
Dimethyl Formamide	GC	% Assay
Phenol (high color)	GC	% Assay
Paint Solvents	IR & GC	% Assay
Trichloroethane	GC	% Assay
RECLAIMED MATERIAL		
Isopropyl Alcohol	GC	% IPA
Toluene	GC	% Toluene
WASTE OILS		
Crank case oils	GC	% Assay
MIXED HYDRAULIC FLUIDS	GC	% Esters
PCB's	GS-MS	% PCB

	ANALYTICAL METHOD	PARAMETERS
DUST COLLECTOR TUBES		
Aspirin	Non aqueous titration	% Aspirin
Fumaric Acid	Polargraph or titration	% Fumaric
FILTER CARBON		
HCl Recovery	Wet Chemical	% Assay
Santicizer S-9C	Wet Chemical or titration	% Assay
p-TS Amides	Wet Chemical or titration	% Assay
FILTER CAKE		
Aroma Esters	GC & Wet Chemical	% Assay
Central Drumming	GC	% various esters
OS-A	GC & Wet chemical	% Assay
OS-D	GC & Wet Chemical	% Assay
MXP 2097	GC	% Assay
Phosphate Esters	GC & Wet Chemical	% Assay
Resin, MHP Crude	Wet Chemical	% Assay
S-8 Reg.Santicizer	GC & Wet Chemical	% Assay
S-8 Special	Wet Chemical & titration	% Assay
S-9C Special	Wet Chemical & titration	% Assay
S-9C	Wet Chemical & titration	% Assay
FILTER CARTRIDGES		
Acetic Acid	Wet Chemical	% Assay Moisture
Alachlor		
Aroma Esters	GC & Wet Chemical	% Assay
Central Drumming		
MS 80%	Wet Chemical	% Assay
Phosphate Esters	GC & Wet Phosphate Esters	Chemical
PNPT	GC & Wet Chemical	% Assay
Resin MHP	Wet Chemical	% Assay
FLOOR SWEEPINGS		
Aspirin	Non aqueous titration	% Aspirin
Fumaric	Polygraph or titration	% Fumaric
Maleic	Polygraph or titration	% Maleic
TCC	LC or UV	% TCC
MISCELLANEOUS		
Lab Solids	Records of contents kept for indentification	
CAC Solvent Column Packing		
Contaminated Molecular Sieves		
Asbestos	Microscope I.D.	presence
p-Chlorophenyl isocyanate		
PNPT waste	GC	% Assay
PNPT drainings	GC	% Assay
Clarifier Bottom Sludge	GC	% Assay

	ANALYTICAL METHOD	PARAMETERS
RESIDUES		
DCA Still	LC,IR,Wet Chemical	% Assay
MHP Resin	GC & Wet Chemical	% Assay
MS-80 Resin	GC & Wet Chemical	% Assay
PCE Still	LC,IR,Wet Chemical	% Assay
P-phenetidine	GC	% Assay
TSCl STO Still	GC	% Assay
REJECT PRODUCTS		
p-TSCl	GC	% Assay
TS Amides	GC	% Assay
Resin MS 80%	GC	% Assay
Resin MHP	GC	% Assay
Reject CMA	GC	% Assay

ONE TIME ONLY WASTE STREAMS

A number of waste streams are generated in the plant each year that result from the clean out of warehouses, off-spec raw materials and products due to shelf life, spill incidents, contaminated equipment removal, excavation work and other plant activities. These wastes, therefore, are generated only once and then disposed of. These particular waste streams are not generated routinely.

Analytical methods for such waste are normally developed at the time it is determined that the material is to be disposed of. Information from Company "Material Safety Data Sheets", material spec sheets, textbook values and other sources are often consulted. The data are summarized and included on the waste forms for the involved states and the landfill/incinerator. Samples of the waste materials are provided to the disposal facility as needed.

Sample analysis usually begins with an IR scan if it is an unknown. A GC analysis is then performed for composition determination. The other "normal analysis" is then usually performed (pH, Sp. Grav., etc.) also. If some idea of the material's composition is known, a GC is run without the IR.

PERSONNEL TRAINING PROGRAM

The Queeny Plant has an extensive program for the training of all its employes for their specific job. Both hourly and salaried personnel receive specific training for their responsibilities/duties of hazardous waste management activities.

HOURLY PERSONNEL TRAINING

1. NEW EMPLOYE TRAINING (NET)

All hourly plant personnel undergo an extensive training program once they are hired by Monsanto. The program is referred to as New Employee Training (NET) and takes the form of two phases.

a. Four Weeks

The day-to-day plant activities are described at length as well as a general orientation to plant procedures. Safety procedures utilized in the plant, explanation of chemical hazards and the appropriate safeguards and many other associated topics are covered in this training program.

The subject material is presented in a classroom setting as well as practical aspects in a laboratory and in some process areas. The training time allotment is summarized as follows:

- 40% Theory of Chemistry, Physics, etc.
- 40% Hands on experience in process set-up
- 10-20% Laboratory analysis training

b. Two + Weeks

Once assigned to a specific department, detailed training of the particular process is then provided. Operation Training Guides (OTG) are provided which describe the overall process and exactly how the department operates. The individual is indoctrinated to his/her particular job which includes departmental safety procedures, chemical hazards and the day-to-day operations of the department.

c. On the Job Training

All employes receive extensive training before actually working in their department. All new employes receive their training through direct experience with on the job training. The new employe is accompanied by the foreman for a three to four month period. The employe is trained in all aspects of his/her job. This includes familiarization with the process, methods of operation and the day-to-day functions of the department.

All training includes proper instruction regarding the handling of all chemicals, including waste products, in the department and all associated safety practices that should be followed. The training also includes proper indoctrination to emergency procedures at the Department as well as plantwide procedures. This includes proper procedures to be implemented in the event of fires, fume conditions, spills, etc. All operators are instructed to activate the plant emergency procedures in the event of an emergency condition.

In addition, monthly safety meetings are held with department personnel to discuss various topics regarding process operations. Although topics change each month, at least one meeting is devoted to safety procedures.

3. ENVIRONMENTAL TRAINING

In addition, a training program devoted solely to environmental control activities is conducted for hourly personnel. An outline of this training is provided in Attachment A.

SALARIED PERSONNEL

All salaried personnel receive the same environmental training as outlined above.

ENVIRONMENTAL TRAINING

I. DISTINCTION OF AIR, WATER AND SOLID WASTE POLLUTION

II. WASTEWATER DESCRIPTION

A. Quality - from specific department and total plant
B. Quantity - from specific department and total plant
C. Plant Sewer System
   1. Treatment scheme (Neutralization Basin, Spill Pond System, MSD, River)
   2. Monitoring sites (Lasso, Dept. 50, Dirty Acid, MSD and Sal Acid)
   3. Identification of problems (spills, upsets, leaks)
   4. Importance of materials sent to the sewer
      a. Be accountable for materials going to the sewer
      b. Problem chemicals from the department and on a plantwide basis
      c. Hot sewer conditions
      d. Sewer flammability monitors in plant
      e. Past incidents at JFQ

D. MSD Regulations
   1. Limits on pH, flammables, oil and grease, solids, metals, phenols, toxics, etc.
   2. Cannot create a nuisance or hazard in their system

E. Future Regulations
   1. Pretreatment
   2. Pesticides, Pharmaceuticals and Organics

III. SOLID WASTE DESCRIPTION

A. Publicity received throughout the country
B. Congress passed RCRA
C. Impact on Monsanto
D. Plant personnel activities
   1. Recordkeeping increase
      a. Manifest system
      b. 90 days storage limit in the plant
      c. All wastes must be tracked
   2. Container Types
      a. Drums (open head - solids; bung head - liquids)
         i. must be in good condition
         ii. only one waste type in each drum

b. Bulk Storage Tanks
   i. Lasso, Department 50 and Clarifier
   ii. Inspections (daily, weekly)
   iii. Warning signs

3. Proper Labeling Requirements
   a. Use correct labels for specific waste (waste i.d. and hazardous waste)
   b. Use permanent ink
   c. Date drums when put in use
   d. Total weight on label

4. Other items to makes shipment easier
   a. Make sure labels are properly affixed
   b. Position drums facing out
   c. Clean up as needed

5. Handling Requirements
   a. Hazards of various wastes
   b. Personal protective equipment (rubber gloves, aprons, goggles, etc.)
   c. Respirators per green sheet instructions

6. Solid wastes containing free liquids
   a. Banned from landfills
   b. Drain cakes and cartridges as much as possible (use plant air to blow dry)
   c. Use oil dry or other absorbent to soak up excess liquids

E. Specific Department Wastes
   1. Quality
   2. Quantity
   3. Specific problems
   4. Plantwide waste streams

F. JFQ Disposal Sites
   1. Rollins Environmental Services
   2. Rollins Environmental Services
   3. Chemical Waste Management, Emelle, Alabama (incineration)
   4. BHS, Inc., Wright City, Missouri (landfill)

G. Future Activities Planned

H. Missouri - Slide Show on Hazardous Waste

IV. AIR DESCRIPTION

A. Federal Regulation - Clean Air Act
B. NAAQS
C. NESHAPS
D. Missouri State Law
E. City of St. Louis Ordinances
   1. Source operation registration and vent inspections
   2. Odor law and test program
   3. Nuisance Clause
   4. City surveillance
   5. Fume conditions, internal odor complaints

F. Specific Department Control Requirements
   1. Pollution Control devices
   2. Department projects
   3. Plant projects (K-St., ESP)

V. SUPERFUND DESCRIPTION

A. Clean up of old waste sites with $1.6 billion fund from raw material surcharge
B. Future problems with $200 million fund from waste operation fee
C. Report old dump sites
   1. Past JFQ sites
D. Report "abnormal" releases

Chloorphenol	1 pound
Asbestos	1 pound
Perchloroethylene (PCE)	1 pound
1,1,1-Trichlorethane (Methyl Chloroform)	1 pound
Phthalate Esters (DBP, DMP, DOP, etc.)	1 pound
Chlorine	10 pounds
Polychlorinated Biphenyle (PCB's)	10 pounds
Ammonia	100 pounds
Benzyl Chloride	100 pounds
Chlorobenzene	100 pounds
All others	50 gallons

Chlorosulfonic acid, CAC, $POCl_3$, Maleic Anhydride, Acetic Anhydride, HCL, or similar releases must be reported if odors are noticeable and/or fumes are visible from the plant boundary.

Inspection Schedule

Facilities within the plant that store hazardous waste are inspected on a routine basis.

Bulk Facilities

1. Phenol Residue Storage Tank
2. Azomethine Residue Storage Tank
3. Clarifier Waste Oil Tanks (4)

Inspections of these storage tanks occur on both a daily and weekly schedule. Each day the tanks are monitored for:

(2) overall good operations
(2) discharge equipment for potential leaks
(3) appropriate gauges for pressure, levels, etc.

Each week the tanks are monitored for:

(1) corrosion of tank itselt (leaking fixtures or seams, etc.)
(2) area surrounding the tank for obvious signs of leakage or erosion.

All inspections are recorded on log sheets and kep on file as appropriate.

In addition, all storage tanks in the plant are carefully inspected for structural integrity on a routine basis.

Drum Storage Facility

Inspection of the drum storage is performed on a weekly basis. Items that are specifically investigated include:

(1) Drum conditions - leaks
(2) Drum conditions - corrosion, deterioration

Log sheets with the above items indicated are kept on file as appropriate.

CONTINGENCY PLAN AND EMERGENCY PROCEDURE

The J. F. Queeny Plant has an extensive emergency control program already in practice. It is designed for emergency conditions at the plant which may threaten serious injury to personnel or damage facilities within the plant or the surrounding neighborhood. Many of these same procedures will be utilized in the contingency plan for the hazardous waste facilities.

EMERGENCY PROCEDURE

In the event of a fire, explosion or sudden release of waste (i.e.spill) at any of the facilities, the first person discovering the situation informs security. An emergency phone number (2222) exists within the plant which is used to activate the plantwide emergency system under these and other conditions. All calls on this line are also transmitted to the safety department, fire department, medical department, and night superintendent's office.

Once plant security is informed of the emergency, a general announcement is made plantwide over the PA system describing the situation. This alerts all plant personnel of the emergency and to its location. Security then sounds the plant siren followed by the steam whistle to verify the emergency condition. One short blast indicates the emergency is located in Zone 1 and two short blasts indicate the emergency is in Zone 2 (See Attachment "A").

An emergency control center exists in the AAA Building which is designed for the overall directing of emergency procedures at the plant. Once the plant emergency program is initiated, several key management staff assemble in the control center to assist in the emergency. The General Superintendent (GS) of the area with the actual emergency condition proceeds to the site of the emergency and acts as the On-Site Director. This GS then directs all activities at the emergency site until the situation is under control. Asistance is provided by the Safety Superintendent who coordinates the action of the medical, fire fighting, first aid and rescue groups at the site. The Area Maintenance Superintendent directs any maintenance actions needed at the emergency site. The GS remains in radio contact with the emergency control center throughout the emergency and determines the need for outside assistance. Once the emergency situation is over, a plantwide PA announcement is made along with one long blast on the steam whistle to indicate the "all clear" situation.

In the event an emergency occurs during the "off-shift," the night superintendent is responsible for all emergency activities required. The night superintendent is in responsible charge of the situation, overseeing the activities of the Rescue Squad, Fire Department, and any effort required in dealing with an emergency. He also makes the decision if the emergency control center should be manned and authorizes the call in of the plant GS's.

EMERGENCY COORDINATOR

As described in the "Emergency Procedure" section, the GS of the particular department where the emergency occurs acts as the on-site emergency coodinator. Each GS can be reached at 622-1400 and is on emergency call when not at the plant.

The following list indicates the appropriate emergency coodinator for each facility.

	EMERGENCY LOCATION	EMERGENCY COODINATOR
1.	AZO Residue Storage Tank	J. L. Solari
2.	Phenol Residue Storage Tank	T. E. Greenman
3.	Waste Drum Lot	M. J. Beaudine
4.	CAC Oxidizer	J. L. Solari
5.	Clarifier Oil Storage Tanks	C. H. McComb

EVACUATION PROCEDURE

There are two evacuation procedures available at the plant in the event an emergency warrants the plant to be evacuated. The plantwide evacuation involves all plant personnel and is put into effect by sounding the steam whistle ten (10) consecutive times. All persons in the plant assemble at either of two assembly points depending on their job location. Departmental evacuation procedures are in existence also; however, these involve only a particular department and not the entire plant. Audible signals are given in the department and all personnel assemble at various predetermined sites (See Attachment "A").

EMERGENCY EQUIPMENT

The John F. Queeny Plant is equipped with its own Fire Department that consists of at least five firemen and supervisory staff. In addition, the plant has at least fifteen night mechanics who assist in emergencies. At least four personnel (firemen and/or night mechanics) are on duty at all times.

The Queeny Fire Department equipment consists of the following:

1. A 1959 International Fire Truck carrying 1000 lb. of ABC dry powder with two reels of 100 ft. hose, 200 gallons mixed AFFF light water with 200 ft. of 1½" booster hose, 1650 ft. of 2½" hose and 150 ft. of 1½" hose forming hose skid, 6 Scott air packs, acid and fire suits, additional 150 ft. of 2½" hose, 200 ft. of 1½" hose, two 10-lb. CO_2 extinguishers, three 20-lb. ABC extinguishers, two 30-lb. ABC extinguishers and miscellaneous tools.

2. A 1978 Chevrolet Pick-Up Truck with two Scott air packs, pipe pole, resuscitators, spare nozzles, bolt cutter, pry bar, two extinguishers and miscellaneous tools.

3. A V3 National Foam Trailer with 150 ft. of 2½" hose, 200 gallons of Aer-O-Foam XL-6, two nozzles and one tank injection nozzle.

The City of St. Louis Fire Department responds to fires within the Queeny Plant as needed. Engine companies 11 and 16 are located four blocks from the plant.

EMERGENCY FACILITIES

The Queeny Plant has a complete medical facility which provides 24-hour medical treatment. It includes a laboratory and x-ray department along with several examining and treatment rooms.

A full-time doctor is employed at the plant and is on emergency call. Other medical staff includes registered nurses and x-ray technicians. At least one nurse is working in the plant at all times.

EMERGENCY RESPONSE TEAM

The Queeny Plant has a Rescue Squad at the plant who responds to emergencies to give medical attention as needed to plant personnel. The squad consists of roughly 40-60 people who are trained in first aid and cardiopulmonary resuscitation (CPR). Squad members work at their regular jobs throughout the plant and respond to all emergencies as they occur.

Members become aware of emergencies by way of general PA announcements and the plant steam whistle. The first person at the scene acts as the emergency squad leader and directs the group's actions as they administer medical treatment as needed.

ENVIRONMENTAL PROTECTION GROUP

There is an Environmental Protection Group in existence who implements the environmental procedures at the plant. In the event of a plant emergency with a potential threat to the environment, group members monitor the emergency site as well as the remainder of the plant. They also provide assistance in handling the emergency and in reporting fume conditions and other hazards to the emergency control center.

AGENCY NOTIFICATION

The Superintendent of Health, Safety and Environmental Protection (HS&EP) is directly involved with the emergency control program. He remains in radio contact with the on-site coordinator as well as members of the Environmental Protection Group. In the event the situation justifies the notification of emergency response agencies, the HS&EP Superintendent makes the necessary contacts. This includes the National Response Center (800-424-8802), the City of St. Louis Air Pollution Officer (314-622-3334), the Metropolitan Sewer District (314-231-1950), and other agencies as appropriate.

JFQ PLANT EMERGENCY EVACUATION MAP

DEPARTMENTAL EVACUATION

INITIATED BY DEPARTMENT SIGNAL OR AS DIRECTED BY P.A. ANNOUNCEMENT.

DEPARTMENTAL ASSEMBLY POINTS

SIX AREAS DESIGNATED BY ★★
EXCEPTION: AAA, A, UU, ZZ, KK, Q, QQ, VV, CAC, ACIDEMEN, MALEIC PERSONNEL: EVACUATE TO PRE-SELECTED SITE AS SPECIFIED IN PROCEDURE 708, APPENDIX F.

PLANTWIDE EVACUATION

ANNOUNCEMENT OVER P.A. SYSTEM AND 10 BLASTS OF AIR HORN, 3 TIMES.

PLANTWIDE ASSEMBLY POINTS

DESIGNATED AREA IS SHADED

ALL-CLEAR SIGNAL

ANNOUNCEMENT OVER P.A. SYSTEM AND ONE LONG BLAST OF AIR HORN.

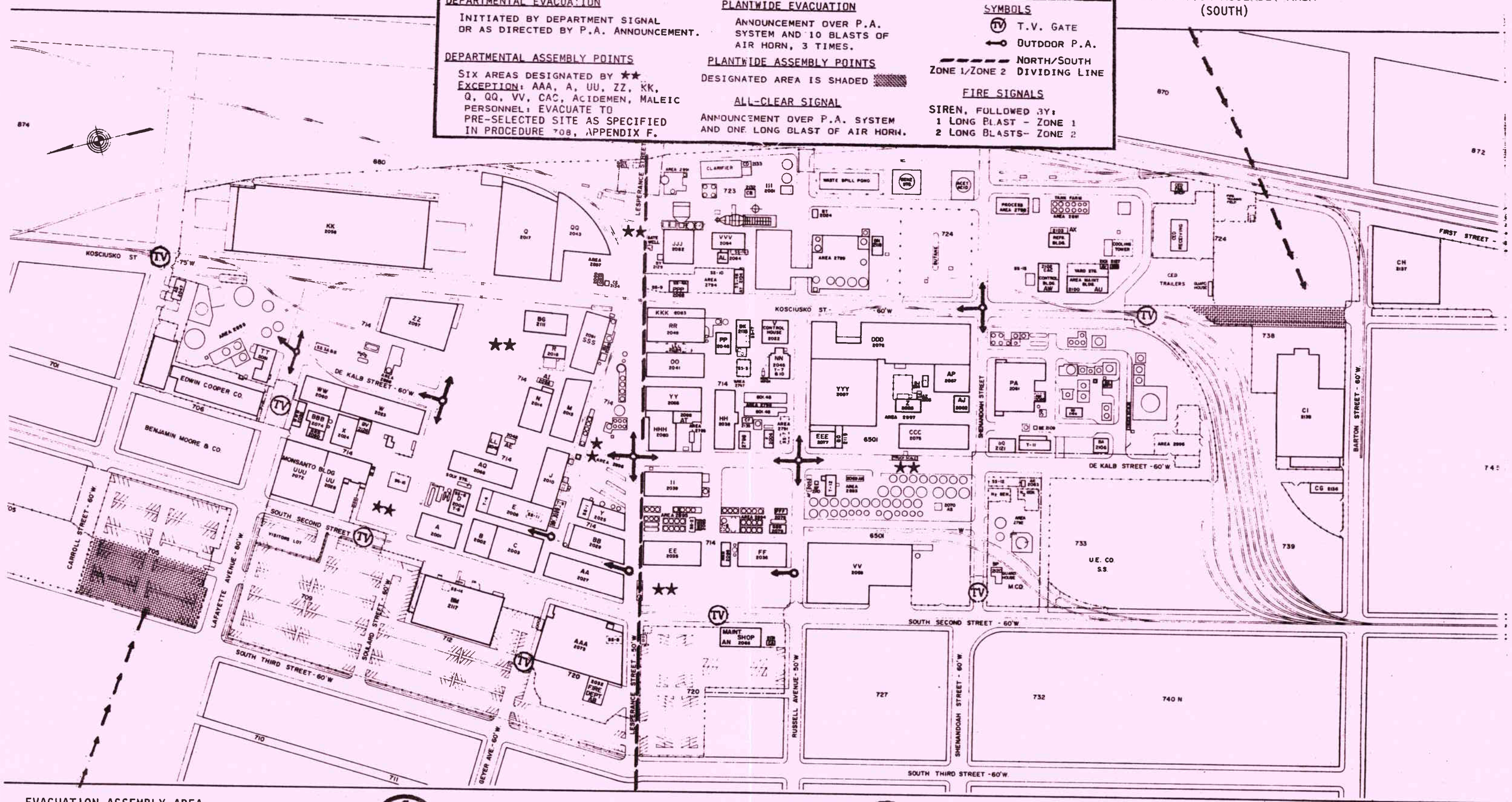
SYMBOLS

- (TV) T.V. GATE
- ⟵ OUTDOOR P.A.
- NORTH/SOUTH ZONE 1/ZONE 2 DIVIDING LINE

FIRE SIGNALS

SIREN, FOLLOWED BY:
1 LONG BLAST - ZONE 1
2 LONG BLASTS- ZONE 2

EVACUATION ASSEMBLY AREA (SOUTH)



*****The Primary Plantwide Assembly Area will be on the Parking lot at the extreme northwest corner of the Queeny Plant. The Plantwide Assembly Area is along 3rd Street between Lafayette and Carroll Street.

---Signs are installed along the fence to designate your assembly location.
---Route to the assembly area is yours to make depending upon the emergency.
---Emergency gates (with key under glass) are located on either side of the AAA Building to provide access to 3rd Street.
---Establish communications with the HeadCount Coordinator of the site.
---Remain in the Assembly Area until the all-clear is sounded; or as directed by Emergency Control through the HeadCount Coordinator.

*****The Alternate Assembly Area is at the southeast corner of the Plant on Kosciusko Street.

---South of CAC between the TV Gate and Barton Street.
---This site is to be used ONLY if Primary Assembly Area is untenable; or as directed by Emergency Control.
---Again, remain till the all-clear is sounded.

*****The Departmental Assembly Area will primarily be one of six (6) locations in the Plant.

---1. The old CC Building lot
---2. The old U Building lot
---3. The old L Building lot
---4. Golden Triangle
---5. North of K Street Boiler
---6. DeKalb Street Truck Scale

The Departmental and Plantwide Assembly Areas for each building will be posted at strategic locations within the structure. Check with your supervision regarding the Departmental Assembly Area for you.

*****Procedure Number 708 includes:

---Emergency map for the Plant
---Instructions on what to do in the event of an approaching tornado.
---Examples of one-minute department emergency shutdown sheets.
---Gate manning assignments.
---The medical alert concept.

*****If there are any questions regarding the Emergency Evacuation Procedure, as discussed in safety meetings, be sure to ask your supervisor.

KNOW HOW TO REPORT AN EMERGENCY!

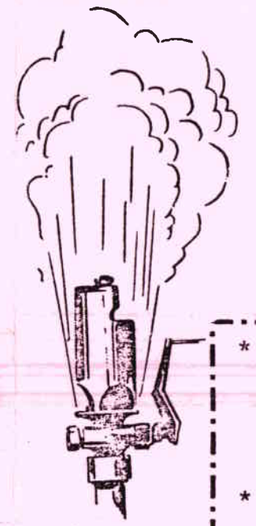
KNOW YOUR EMERGENCY PROCEDURES!

ATTACHMENT A

WHAT'S NEW **SPECIAL EDITION** **AT J F Q**

Monsanto

EMERGENCY EVACUATION PROCEDURE



October 1982

* When an emergency arises, call Station 2222 to report the incident. The Guard Office, Plant Fire Dept., Night Superintendents, and the Plant Dispensary all have extensions of this line and will listen to your call. Do not hang up until you have been understood.

* The departmental shutdown procedure might then be initiated. Make sure you know what this procedure is in your department.

* When the department evacuation whistle is sounded and/or a P.A. announcement is made by the Guard, all personnel in the department must evacuate to their departmental assembly point.

* If the emergency becomes plantwide, all personnel must evacuate the plant and assemble at the Primary Plantwide Assembly Area (shaded on the map). Signs will be installed along the fence to designate your assembly location. For a plantwide evacuation, there will be 10 blasts of the air horn, 3 times and a P.A. announcement from the Guard.

* The Alternate Assembly Area is used as BACK-UP ONLY. Unless announced differently over the P.A. systems, the PRIMARY ASSEMBLY AREA WILL BE USED FOR ALL PLANTWIDE EVACUATIONS.

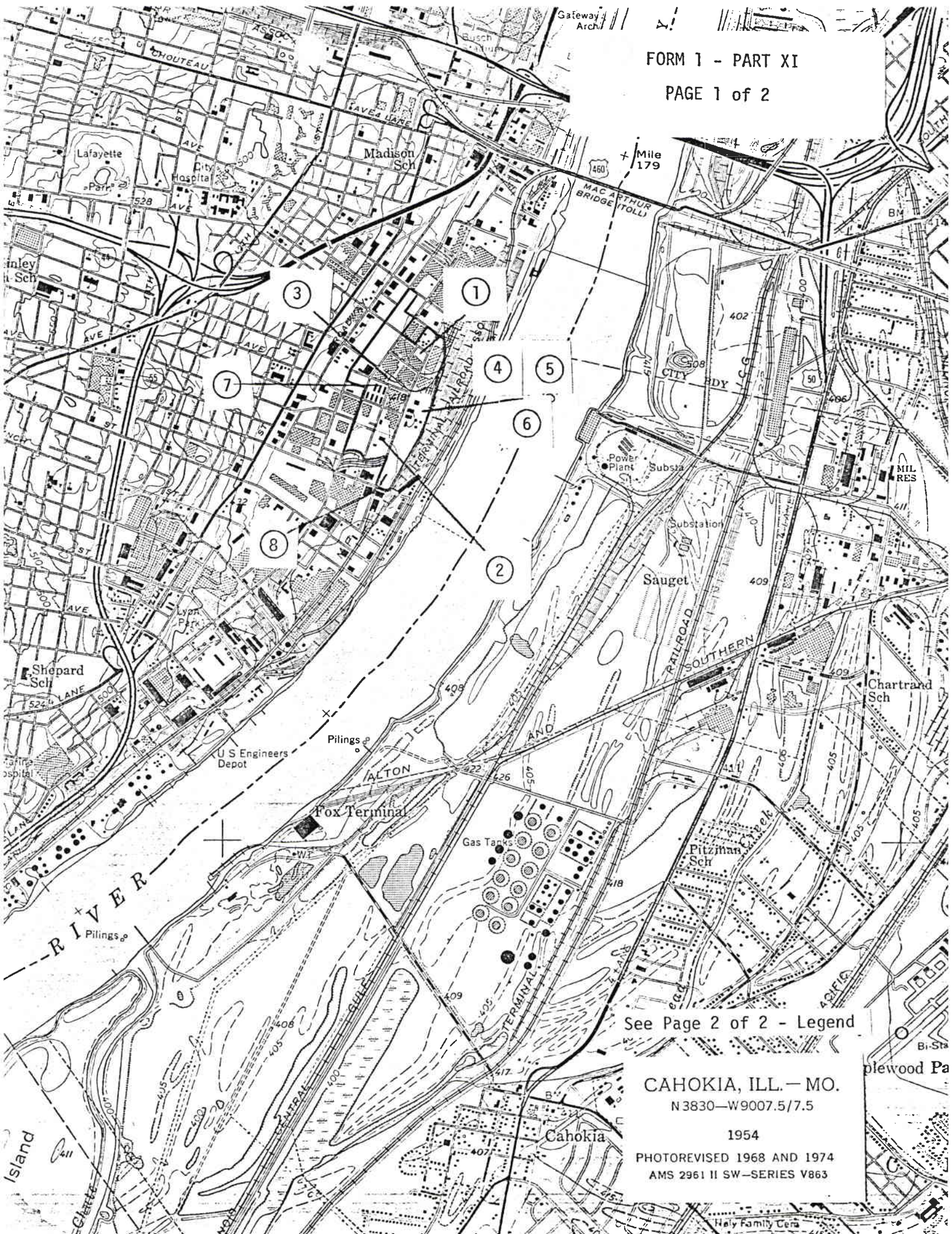
* Remain at the Plantwide Assembly Area until headcount is taken, the all-clear signal has been sounded and supervision tells you to return to your department.

ATTACHMENT A

FORM I - PART X

The J. F. Queeny Plant has over 470 air source operations that are registered with the City of St. Louis, therefore, these are not included.

The J. F. Queeny Plant has no NPDES permit or a direct discharge. The plant discharges to the Metropolitan St. Louis Sewer District which does not operate a permitting system to its users.



See Page 2 of 2 - Legend

CAHOKIA, ILL.—MO.

N3830—W9007.5/7.5

1954

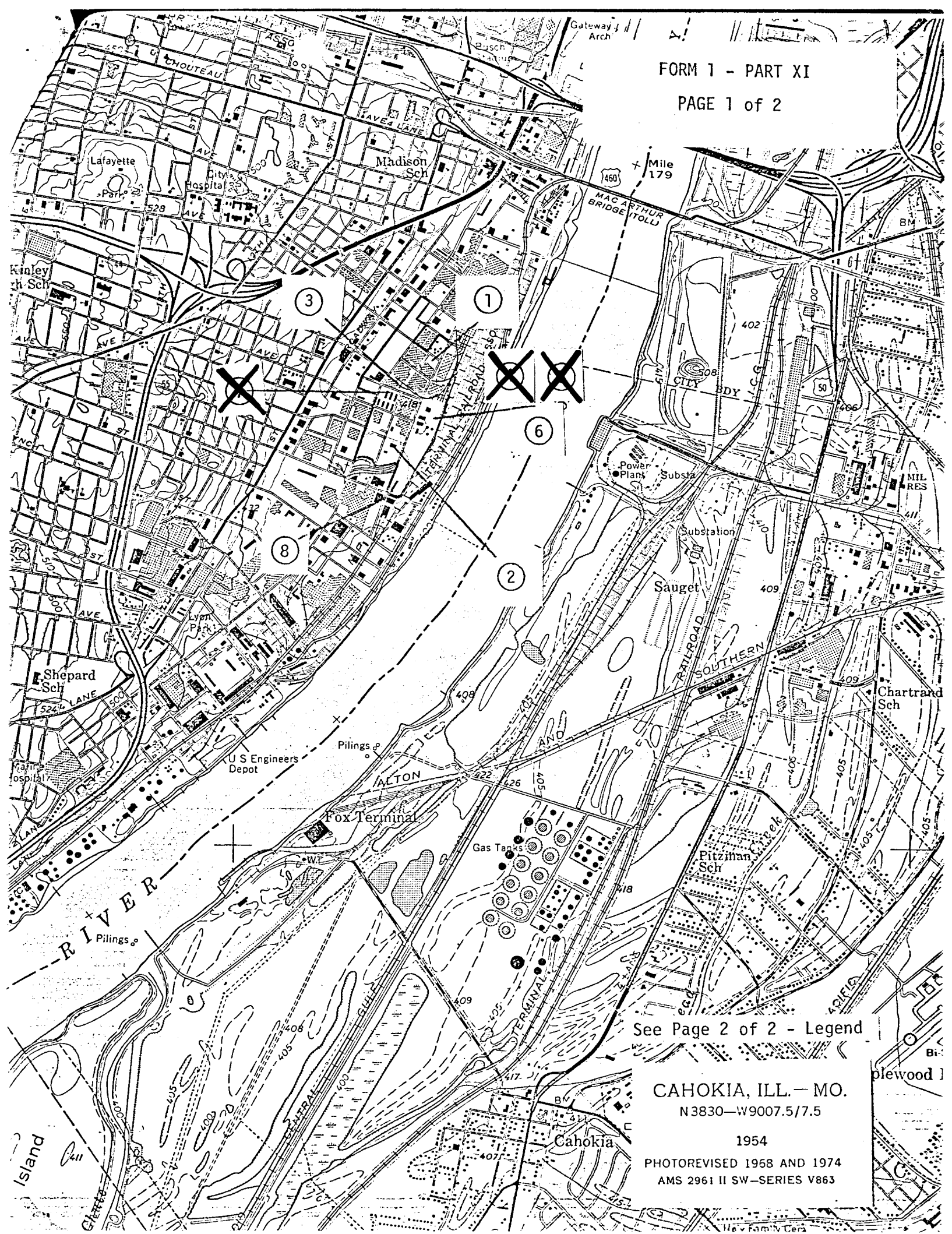
PHOTOREVISED 1968 AND 1974

AMS 2961 II SW—SERIES V863

Form 1 - Part XI

LEGEND

1. Drum Storage Lot (90 ft. x 90 ft.)
2. AZO Residue Storage Tank (12,000 gal.)
3. Phenol Residue Storage Tank (15,000 gal.)
4. Spill Control Clarifier (under construction)
5. Neutralization Basin (40 ft. x 40 ft.)
6. Clarifier Waste Tank Farm (under construction) = 360000
7. Laboratory Separator (10 ft. x 20 ft.)
8. CAC Oxidizer (30 ft. x 30 ft.)



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1954

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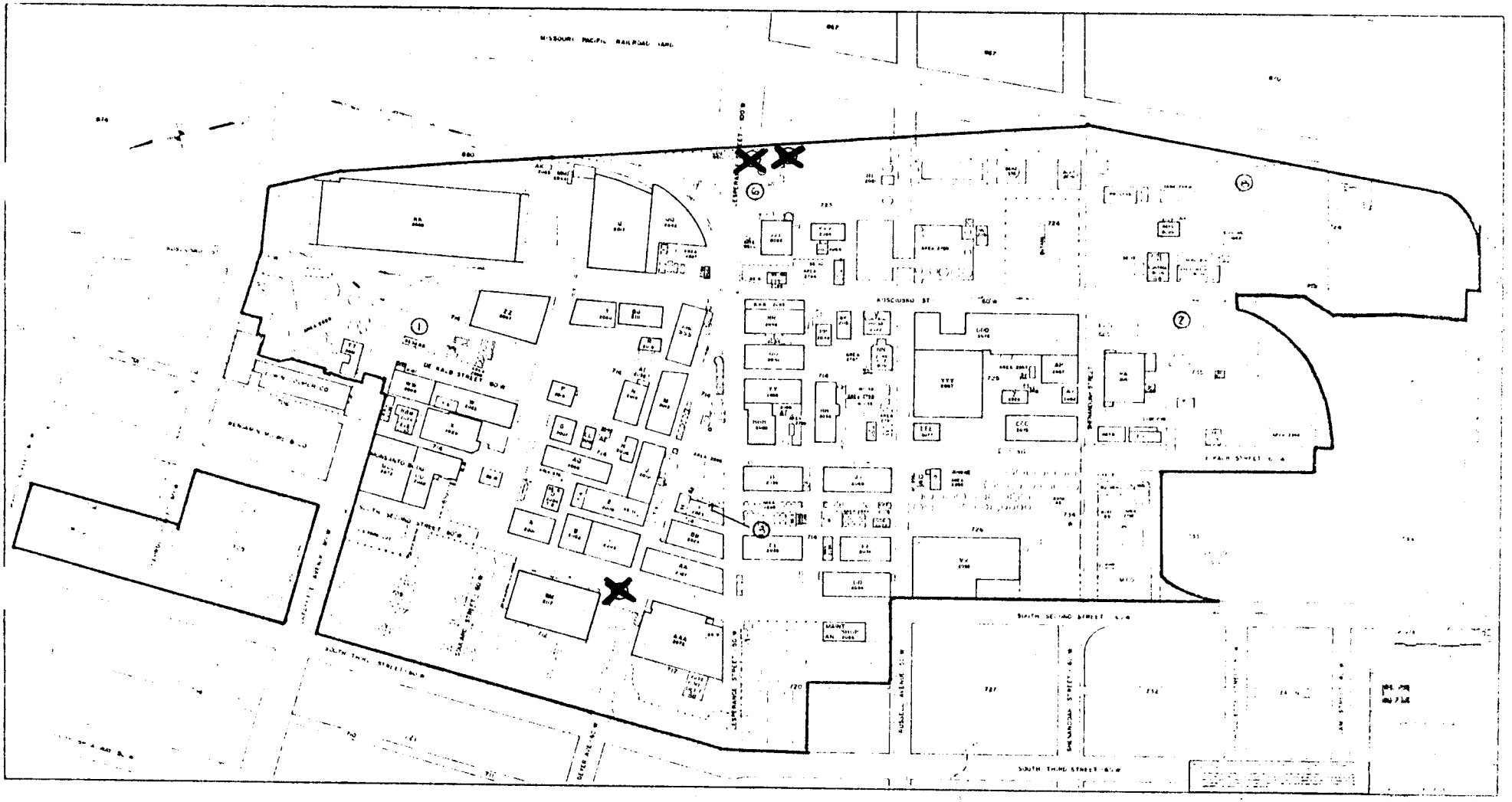
AMS 2961 II SW—SERIES V863

Form 1 - Part XI

LEGEND

1. Drum Storage Lot (90 ft. x 90 ft.)
2. AZO Residue Storage Tank (12,000 gal.)
3. Phenol Residue Storage Tank (15,000 gal.)
4. ~~Spill Control Clarifier (under construction)~~
5. ~~Neutralization Basin (40 ft. x 40 ft.)~~
6. Clarifier Waste Tank Farm (under construction)
7. ~~Laboratory Separator (10 ft. x 20 ft.)~~
8. CAC Oxidizer (30 ft. x 30 ft.)

ATTACHMENT B
FORM 3 - PART V
Page 1 of 2



ATTACHMENT C - LEGEND

Form 3' - Part V

1. Drum Storage Lot (90 ft. x 90 ft.)
2. AZO Residue Storage Tank (12,000 gal.)
3. Phenol Residue Storage Tank (15,000 gal.)
4. Spill Control Clarifier (under construction)
5. Neutralization Basin (40 ft. x 40 ft.)
6. Clarifier Waste Tank Farm (under construction)
7. Laboratory Separator (10 ft. x 20 ft.)
8. CAC Oxidizer (30 ft. x 30 ft.)

Time Schedule

All storage facilities will be utilized as long as they are structurally sound and can carry out their intended functions. Therefore, specific dates indicating actual closure cannot be provided. This will be determined through routine inspections of the facility. Instead, time increments for completing closure activities have been provided.

		MAXIMUM TIME
(1)	Residue removal, transportation to the incinerator	15 working days
(2)	Rinse removal & transportion	15 working days
(3)	Tank dismantling	5-10 working days
(4)	Transport to landfill	5 working days

Cost Estimate

The cost estimate to implement the closure activities are:

(1)	AZO Residue	$ 59,000
(2)	Phenol Residue	$ 65,000
(3)	Clarifier Waste Oil	$213,000

STORAGE FACILITIES - DRUM STORAGE LOT

NO Planned Facilities or Planned Closure Activities/Costs

Facility Conditions

There is one storage area within the plant devoted to temporarily storing drums of hazardous wastes. It is located at the northern end of the plant and is 90 x 90 ft. in size. Prior to this it served as a storage area for pallets along with raw materials and process salvage for the entire plant. The storage area is completely paved by concrete and asphalt.

All wastes generated throughout the plant are eventually brought to this lot for storage. The various drums are then sorted and assembled for shipment out of the plant for final disposal. Presently, drums containing solid wastes are disposed of at:

These have been changed

(1) Rollins Environmental Services, Baton Rouge, LA
(2) Chemical Waste Management, Emelle, Alabama
(3) BHS, Inc., Wright City, MO

Drums containing liquids are incinerated at:

has been added

(1) Rollins Environmental Services, Deer Park, Texas
(2) Rollins Environmental Services, Baton Rouge, LA.
(3) Chemical Waste Management, Emelle, Alabama

Waste Inventory Removal

At the time when the drum lot is to be closed and no longer used, the various disposal outlets will be contacted so that shipments can be made. This is not much different than normal plant operations as drums are moved out of the plant within 90 days of actual generation.

On the average there are approximately 150-200 drums at any time on the storage lot. A truck can hold 75 drums; therefore, it will take 2-3 trucks to empty the lot of its wastes. Depending on the disposal outlet utilized, it normally takes 1-5 working days for a shipment to leave the plant once the disposal facility is contacted. Driving time to each of the disposal facilities is 1 day. Total time for the waste to leave the plant site and arrive at the disposal facility is 19 working days.

used to be 151 streams

The composition of the waste can vary considerably as there are 127 differest waste streams registered with the State of Missouri. Details of the waste composition can be found in the EPG's files.

Storage Lot Decontamination

The drum lot is completely paved, therefore contaminated soil removal is unnecessary. The lot is inspected daily for leaks and spills of waste materials. If any are found, the materials are cleaned up as soon as possible. The drum lot, as such, is carefully maintained. However, at the time of closure, it will be examined again for spills or leaks of waste materials. Any areas noted to be contaminated will be cleaned and the materials will be drummed and disposed of. The exact quantities of such materials are impossible to estimate and will have to be determined at the time of actual closure.

The storage lot will then be put to use in another fashion to accommodate plant operation.

Pretreatment of Wastes

Not applicable.

Time Schedule

The drum storage lot will be utilized as long as it can function in this capacity. Therefore, specific dates indicating actual closure cannot be provided. This will be determined through routine inspections of the facility. Instead time increments for completing closure activities have been provided.

		MAXIMUM TIME
(1)	Drums removal, shipment to disposal facilities	19 working days
(2)	Storage lot clean-up	5 working days

Cost Estimate

The cost estimate for disposing of the average number of drums and closing this storage area out is $10,000.

Totally different.

Incinerator closure is not addressed.

Monsanto split
CAC liquid stream

light overheads 6379 – 7978 BTU/lb
≈ 7053 BTU/lb

Still bottom 6400 – 7819 BTU/lb
≈ 7130 BTU/lb

Closure

Tanks

How long are these (residues) wastes stored in tanks

Description - Bermed?

Drum Storage

Description of storage facility - drains, cracks, joints, etc...
- Compatable vs. incompatable

Solvents - asphalt part of area.

Cost estimates are for maximum storage (worst conditions)

Waste Analysis

Specify compliance with SW-846? or give rationale for not complying and outline your procedure

QA/QC Procedures

Personnel Training

This (NET) should be standardized in so much as a course outline.

Hands on experience should note - what supervisory control exists
- Description of extent of hand-on

Inspection schedule - provide log forms or checklists used when conducting the inspection.
(Check reqs for compliance)

Emergency / Contingency
Provide contingency plans
Do the EC have authority to commit resources as needed.

1781

CLOSURE PLANS

HAZARDOUS WASTE FACILITIES

J. F. QUEENY PLANT

STORAGE FACILITIES - TANKS

Facility Conditions

There are two storage tanks in the plant at the present time that store liquid hazardous wastes in bulk. These include the Azomethine (AZO) residue tank and the Phenol residue tank.

The AZO residue is stored in a 18,000 gallon carbon steel tank. It is located at the southern end of the plant in the Alachlor manufacturing department.

The Phenol residue is stored in a 15,000 gallon carbon steel tank. It is located in the center of the plant adjacent to the Phosphate Ester manufacturing department.

Both residues are stored on site temporarily before being shipped off site (via tank truck) for incineration. At the present time, the residues are incinerated at either of two Rollins Environmental Services facilities located in Baton Rouge, Louisiana and Deer Park, Texas.

Waste Inventory Removal

At the time when either of the tanks will be closed and no longer used, the disposal facility will be contacted as soon as possible. Arrangements will be made for pick-up of the waste and transport to the incinerator. Rollins' truck normally arrives within 1-2 days after being called to pick up a waste shipment. Driving time to either of the incinerators is 1 day.

(1) AZO Residue

Assuming the tank is completely full and only one truck is available for shipment (i.e. worst conditions), it will take five trips to completely empty the tank. The time estimate for emptying the tank and transporting the waste completely off site is 15 working days.

Maximum Amount of Waste: 18,000 gallons

Waste Composition:

2,6 - Diethyl Azomethine	- 37%
2,6 - Diethylaniline	- 5%
TEA Salts of S-593	- 60%
Formaldehyde	- 5%

(2) Phenol Residue

Assuming the tank is completely full and only one truck is available for shipment (i.e. worst conditions), it will take four trips to completely empty the tank. The time estimate for emptying the tank and transporting the waste completely off site is 12 working days.

(2) Phenol Residue (continued)

Maximum Amount of Waste: 15,000 gallons

Waste Composition:

Partial Esters/High Boilers	- 60%
Alkyl Phenol	- 10%
Phenol	- 30%
Isobutyl Acetate	- 1%

Tank Decontamination and Disposal

Once either of the tanks are emptied of their residues, the entire tank, its piping network and pump will be disposed of at a chemical waste landfill. Any residues remaining in the tank or its appurtenances should be minimal. However, any additional residues will be drummed and disposed of. The exact quantities of such materials are impossible to estimate and will have to be determined at the time of actual closure. Once empty, each tank will be filled with water and then emptied. This material will also be hauled to the incinerator for disposal. Both areas in the plant where the residue storage tanks are located are concrete. Therefore, contaminated soil removal is unnecessary. Any areas adjacent to the tank with signs of spills or leaks will be cleaned with appropriate solvents and the materials will be disposed of. The quantities of these materials are also impossible to quantify at this time.

The tank sites will then be put to use in another fashion to accommodate plant operations.

Pretreatment of Wastes

No pretreatment of either residue is needed prior to disposal at the incinerator.

Time Schedule

All storage facilities will be utilized as long as they are structurally sound and can carry out their intended functions. Therefore, specific dates indicating actual closure cannot be provided. This will be determined through routine inspections of the facility. Instead, time increments for completing closure activities have been provided.

	Maximum Time
(1) Residue removal, transportation to the incinerator	15 working days
(2) Rinse removal & transportation	15 working days
(3) Tank dismantling	5-10 working days
(4) Transport to landfill	5 working days

Cost Estimate

The cost estimate to implement the closure activies are:

(1) AZO Residue - $52,000
(2) Phenol Residue - $58,000

Planned Facilities

In addition to the two residue storage tanks in existence, projects have been initiated that will result in six additional waste storage tanks. These include:

(1) Aroma Esters Waste Storage Tank
(2) Levodopa Waste Storage Tank
(3) Clarifier Waste Storage Tank, 4

Many of the details of the new tanks are not yet available such as waste composition, disposal outlet, etc. Therefore, closure details cannot be provided to the extent as the existing tanks. Cost estimates have been made assuming that the waste residues will be incinerated.

Closure Activities/Costs

It is presently anticipated that these tanks will be handled in a similar manner as the existing tanks. Cost estimates are:

(1) Aroma Esters Waste	-	$ 10,000
(2) Levodopa Waste		$ 21,000
(3) Clarifier Waste, 4		$189,000

STORAGE FACILITIES - DRUM STORAGE LOT

Facility Conditions

There is one storage area within the plant devoted to temporarily storing drums of hazardous wastes. It is located at the northern end of the plant and is 90 x 90 ft. in size. Prior to this it served as a storage area for pallets along with raw materials and process salvage for the entire plant. The storage area is completely paved by concrete and asphalt.

All wastes generated throughout the plant are eventually brought to this lot for storage. The various drums are then sorted and assembled for shipment out of the plant for final disposal. Presently, drums containing solid wastes are disposed of at:

(1) U. S. Ecology, Sheffield, Illinois
(2) National Industrial Environmental Services, Wichita, Kansas

Drums containing liquids are incinerated at:

(1) Rollins Environmental Services, Deer Park, Texas
(2) Rollins Environmental Services, Baton Rouge, La.

Waste Inventory Removal

At the time when the drum lot is to be closed and no longer used, the various disposal outlets will be contacted so that shipments can be made. This is not much different than normal plant operations as drums are moved out of the plant within 90 days of actual generation.

On the average there are approximately 150-200 drums at any one time on the storage lot. A truck can hold 75 drums; therefore, it will take 2-3 trucks to empty the lot of its wastes. Depending on the disposal outlet utilized, it normally takes 1-5 working days for a shipment to leave the plant once the disposal facility is contacted. Driving time to each of the disposal facilities is 1 day. Total time for the waste to leave the plant site and arrive at the disposal facility is 19 working days.

The composition of the waste can vary considerably as there are 151 different waste streams registered with the State of Missouri. Details of the waste composition can be found in the EPG's files.

Storage Lot Decontamination

The drum lot is completely paved, therefore contaminated soil removal is unnecessary. The lot is inspected daily for leaks and spills of waste materials. If any are found, the materials are cleaned up as soon as possible. The drum lot, as such, is carefully maintained. However, at the time of closure, it will be examined again for spills or leaks of waste materials. Any areas noted to be contaminated will be cleaned and the materials will be drummed and disposed of. The exact quantities of such materials are impossible to estimate and will have to be determined at the time of actual closure.

The storage lot will then be put to use in another fashion to accommodate plant operation.

Pretreatment of Wastes

Not applicable.

Time Schedule

The drum storage lot will be utilized as long as it can function in this capacity. Therefore, specific dates indicating actual closure cannot be provided. This will be determined through routine inspections of the facility. Instead time increments for completing closure activities have been provided.

	Maximum Time
(1) Drum removal, shipment to disposal facilities	19 working days
(2) Storage lot clean-up	5 working days

Cost Estimate

As mentioned, closure of the storage lot will not result in any activities that are not part of normal plant operations. Drums are shipped out of the plant every week of the year. The costs of their disposal are passed on to the specific department who generated the wastes. These costs are budgeted each year and amounted to $200,000 in 1980. This figure is distributed throughout the year and cannot be pinpointed for the time of actual closure.

TREATMENT FACILITIES - INCINERATOR

Facility Conditions

The Chloroacetyl Chloride (CAC) department has an oxidizer unit that serves as an integral part of the process to burn a by-product stream. It is located at the southern end of the plant. The waste stream is fed to the oxidizer unit on a continuous basis where the material is burned at extremely high temperatures and reduced to gaseous by-products.

Waste Inventory Removal

The oxidizer operates on a continuous basis as the waste stream is fed at a constant rate. The oxidizer normally operates at 50% of its design capacity. An exact quantity of waste "on hand" at the time of closure cannot be provided due to its nature of operation. The unit operates at 342#/hour.

As such, the manufacturing will have to cease or there will have to be an alternate means of disposal when the oxidizer is to be closed. There is normally a 1-2 day period needed to burn excess waste when the department is shut down. All waste should be disposed of within this time frame.

The waste is composed of the following materials:

Acetyl Chloride	- 67%
Propargyl Chloride	- 1%
Ethylene Dichloride	- 1%
Chloroacetyl Chloride	- 1%
Proprietary Solvent - Chlorine Complex	- 8%
Dichloracetic Anhydride	- 4%
High Boiling Tars	- 19%

Oxidizer Decontamination and Disposal

When the oxidizer is to be permanently closed from operation, the waste will be burned to complete the cycle of manufacturing. Once this is completed, the oxidizer and its associated equipment will be disassembled. All of the oxidizer components (i.e. burning chamber, piping, pumps, quench pot, etc.) will then be disposed of at a chemical waste landfill. Any additional residues accumulated through the dismantling will also be disposed of. The exact quantities of such materials are impossible to estimate and will have to be determined at the time of actual closure.

The oxidizer unit is situated on an acid brick surface, therefore, contaminated soil removal is unnecessary. Any areas adjacent to the unit with signs of spills or leaks will be cleaned and the materials will be disposed of. The quantities of these materials are also impossible to quantify at this time.

The site will then be put to use in another fashion to accommodate plant operations

Pretreatment of Wastes

As already mentioned, the waste stream is burned on a continuous basis on site. Pretreating the waste is not applicable to this situation.

Time Schedule

The oxidizer will be utilized as long as the unit is structurally sound and can carry out its intended functions. Therefore, specific dates indicating closure cannot be provided. This will be determined through routine inspections of the facility. Instead, time increments for completing closure have been provided.

	Maximum Time
(1) Burn excess waste	2 working days
(2) Oxidizer, appurtenances dismantling	10-20 working days
(3) Transport to landfill	5 working days

Cost Estimate

The cost estimate to implement the closure activities is $87,000.

Monsanto - Quincy

Closure

1) Provide a line-by-line cost breakdown
~~Must provide a date - can be changed~~

2) Must provide a date - 265.112(a)(4)
can be changed with 265.112(b)

3) Certification by both owner or operator and indep. P.E.

4) How will tank be dis-assembled

PEDCo comments to EPA re: facility closure plan & cost est, in FY 83.

Closure Plan Cost Review

Facility: Monsanto Company
J.F. Queeny Plant
St. Louis, Missouri

EPA I.D. No.: MOD004954111

1. Closure of storage tanks

   - Cost breakdowns of closure activities for the AZO residue tank ($52,000) and phenol residue tank ($58,000) were not provided. The following elements should be itemized:

     - Inventory removal (including man-hours, labor rate, contractor time and equipment)

     - Disposal costs for tanks, piping, pumps, drummed residue and waste solvents. Estimate of the number of drums, disposal cost per drum, number of cubic yards and cost per cubic yard.

     - Transportation costs for tanks, piping, pumps, drummed residue, wastewater and waste solvents. Transportation distance from J.F. Queeny plant to Rollins, and transportation unit costs ($/trip).

     - Labor and materials associated with cleaning of spills and leaks, including man-hours, labor rates, quantity of solvent and unit cost of solvent ($/gal).

   - A cost breakdown was not provided for closure activities involving the planned storage tanks (i.e., aroma esters waste tank, Levodopa waste tank, and clarifier waste tanks). The same elements itemized above should be included with the planned storage tanks.

2. Closure of drum storage lot

   - The closure plan states an average of 150-200 drums in storage at any one time, however, for purposes of closure cost estimating we need to know the maximum number of drums in storage at any time during the life of the facility.

   - Procedures for decontamination of storage lot are not discussed, nor are costs for labor (including estimated man-hours and labor rates), materials, equipment, loading, transportation and disposal.

- Cost estimates for closure activities including: inventory removal (man-hours and labor rates), decontamination, transportation and disposal are not provided.

3. Closure of the incinerator

   - The waste stream storage facility for the incinerator (oxidizer unit) was not discussed in the closure plan. Closure plan and closure cost estimate should be amended.

   - Maximum inventory of wastes in storage and treatment at any time during the life of the facility is not provided. Based on maximum inventory of waste stream, time required to treat inventory, associated labor costs, utilities, auxiliary fuel, etc. should be estimated.

   - Man-hours for disassembly of incinerator should be estimated. Labor rates and costs associated with loading of incinerator parts, transportation and disposal should be provided. Also, an estimate of the number of residue drums, drum loading labor, transportation and disposal costs should be provided. The total number of miles from J.F. Queeny plant to the landfill, transportation unit costs ($/trip), as well as disposal costs, should be provided.

   - Costs for decontamination of incinerator area, including: labor (estimated man-hours and labor rates), materials, equipment, transportation and disposal costs are not provided.

4. The closure plan and cost estimate do not address certification of closure by an independent registered professional engineer.

5. A total closure cost for the J.F. Queeny plant is not provided, nor is it able to be calculated due to the absence of a closure cost for the storage lot.

6. Monsanto provided individual schedules of closure for containers, tanks and incinerator, however, a closure schedule for the entire HWM facility was not provided.

7. Items discussed in the closure plan as impossible to quantify (e.g., storage lot decontamination materials) should be estimated or covered by a contingency allowance.

1 - ALL

2 - 1/1/84 - 12/31/85

3 - 1/1/86 - 12/31/87

4 - 1/20/88 - 12/31/88

5 - 1/1/89 - 6/30/89

6 - 7/1/89 - 12/31/89

7 - 1/1/90 - 6/30/90

8 - 7/1/90 - 12/31/90

9 - 1/1/91 - 6/30/90

10 - 7/1/91 - 12/31/91

11 - 1/1/92 - 12/31/92

12 - 1/1/93 - 12/31/93

13 - 1/1/94 - 12/31/94

A 1, 2, 3, 4, 5

Full
9, 10