ATTACHMENT X-8
ORIGINAL TSCA APPLICATION

USPCI
A Subsidiary of
Union Pacific Corporation

APPLICATION FOR

APPROVAL OF COMMERCIAL STORERS PERMIT

OF PCB WASTE 40 CFR 761.65

SUBMITTED BY

PPM, INCORPORATED OF GEORGIA

DOING BUSINESS AS

USPCI

FOR

PPM, INC. of GRAYBACK MOUNTAIN
3 Miles East and 7 Miles North
of Knolls Exit #41 off I-80
Grayback Mountain, Utah
(801) 534-0054

Cary Mans
Facility Manager

August 2, 1990

Volume II

This application consists of two (2) volumes. Volume One contains chapters 3, 5 and 6 as outlined in the TSCA GUIDANCE MANUAL FOR COMMERCIAL PCB STORAGE FACILITY APPLICATIONS, October 18, 1989. Volume Two contains chapter 4, the stand alone Closure Plan. Volume Two is modeled after the TSCA GUIDANCE MANUAL and EXHIBIT 4-4, page 33 of the TSCA GUIDANCE MANUAL.

VOLUME II

TABLE OF CONTENTS

VOLUME II

The Table of Contents is modeled after the TSCA GUIDANCE MANUAL FOR COMMERCIAL PCB STORAGE FACILITY APPLICATIONS, October 18, 1989.

CHAPTER FOUR

4. The Closure Plan

4.1 Facility Description

4.1.1 General description 1

4.1.2 Jurisdiction in which facility is located 1

4.1.3 Written description as well as topographic map detailing information on

A. PCB storage facilities 2

B. PCB treatment and disposal facilities 2

C. Hazardous Waste Management Unit 3

D. All buildings and structures 3

E. Any 100-year flood plain 3

F. Adjacent surface waters or wetlands 3

G. Surrounding land uses 4

H. Other key topographic features 4

I. Traffic patterns 4

J. Location and status of underground storage tanks 4

K. Location and nature of security systems 5

L. Closed PCB Units 6

4.1.4 Description of environmental conditions on-site

A. Proximity to surface waters including ponds, lagoons, wetlands and storage reservoirs 7

B. Proximity to public or private drinking water sources 7

C. Sewer location and design which could result in contamination of sewers or sewage treatment systems from PCB spills 7

D. Location of nearby grazing lands, farms, and vegetable gardens 7

E. Presence of a shallow well, ground water near the surface, or which poses a high potential for ground-water contamination ... 8

4.1.5 Detailed description with engineering drawings

A. CERTIFICATION STATEMENT (40 CFR 761.3) 9

B. Roof and walls 10

C. Flooring 10

D. Curbing and Containment Volume 11

E. Drain valves, floor drain, Expansion Joints, etc 14

F. Storage pallets outside of storage buildings 14

G. Bulk tanks 15

4.2 Disposal of PCB Waste Inventory

4.2.1 Maximum inventory

A. Provide design capacity 40

B. Estimate of maximum types and quantities of contaminated containers, equipment, etc 41

4.2.2 Disposal of inventory

A. Details to ensure compliance as a PCB waste generator 42

B. Estimate of maximum inventory to be sent off - site 47

C. Description of any treatment prior to transport, if applicable 47

D. Methods and arrangements used for PCB waste removal and transportation off-site to approved storage and disposal facilities ... 48

E. Description of treatment or disposal methods at the final treatment or disposal facilities 49

F. Bulk tank removal, transport,tracking, and off-site disposal of tank capacity 50

G. Proposed schedule to complete disposal within 90 days from closure commencement 51

4.3 Closure Plan Sampling, Decontamination, and Complianc with the Spill Cleanup Policy

4.3.1 Equipment and Area Classification 52

4.3.1.1 Tank Farm 52

4.3.1.2 Container Storage Area 55

4.3.2 Numerical Standards 58

4.3.3 Statistical Sampling Program 60

4.3.3.1 Safety Plan 60

4.3.3.2 Initial Inspection of the Facility 82

4.3.3.3 Sampling Plan 86

4.3.3.3.1 QA/QC 88

4.3.3.3.2 Sampling Handling Requirements .. 88

4.3.4 Decontamination Procedures 88

4.3.5 Post Cleanup Verification Procedures 107

4.4 Other Colsure Activities

4.4.1 Ground-Water Monitoring 108

4.4.2 Methods to treat, remove, or dispose of run-on and run-off due to decontamination water, rain,or melting snow 109

4.4.3 Security devices 109

4.5 Schedule For Closure 109

4.6 Modification to Closure Plans 112

Closure Appendices

A. Facility Location on USGS Map

B. Facility Map

C. Tooele County, Utah - Letter about Flood Plain

D. Traffic Map

E. Security Map

F. Security Sign Locations

G. MTU Diagram

H. Proposed Engineer Drawings

I. Process Flow Diagram

J. Inspection Schedule

K. Manufacturers' Specifications

L. EPA - Verification of PCB Spill Cleanup By Sampling And Analysis.

M. Quality Assurance Project Plan

N. Field Manual For Grid Sampling of PCB Spill Sites To Verify Cleanup

O. MSDS For Exxon Univolt 60

P. MSDS For PCB's

CHAPTER 4 chapter 4 follows the Closure Plan Checklist, Exhibit 4-4, of the October 18, 1989 TSCA Guidance Manual.

4.1 Facility Description:

4.1.1 General description:

The PPM, INC. portion of this facility consists of two areas. These areas are the warehouse and the PCB destruction area. The PPM facility handles, stores and decontaminates polychlorinated biphenyl (PCB) contaminated oils for use as fuel oil. A strong caustic solution is created as a by product of the PCB decontamination process. The facility consists of an outside tank area and the Drain and Flush building which includes an office area and drum pad. The accompanying drawings in Closure Appendix B show these areas.

4.1.2 Jurisdiction in which facility is located:

PPM, INC. of GRAYBACK MOUNTAIN
3 Miles East and 7 Miles North
of Knolls Exit #41 off I-80
Grayback Mountain, Utah
(801) 534-0054

4.1.3 Written description as well as topographic map detailing information on:

A. PCB storage facilities:

Grayback Mountain has one building with inside bermed storage areas used for PCB container storage. This building is designated as PPM warehouse one. The warehouse storage areas are used for storage of various PCB material including oil suitable for chemical treatment, askarel (pure PCB), transformers, capacitors and debris.

See Facility Map (Appendix 8) and USGS map in Closure Appendix A.

B. PCB treatment and disposal facilities:

The PCB destruction area is divided into three sections labeled areas 1, 2, and 3 on the attached drawing, Closure Appendix B. This area is only used for the decontamination of PCB contaminated oils and storing of caustic water in drums for shipment to the on site stabilization and landfill area. Only PPM authorized personnel are allowed on the premises.

C. Hazardous waste management units

This is not applicable.

D. All buildings and structures:

See section 4.1.1 above.

E. Any 100-year flood plain:

Although we have not yet been provided with a Federal Insurance Rate Map for this facility, this facility is above any 100 year floodplain. The lowest point of elevation is 4220 feet. See letter from Tooele County Department of Development Services, Closure Appendix C.

F. Adjacent surface waters or wetlands:

There are no adjacent surface waters or wetlands in proximity to facility.

G. Surrounding land uses:

The Grassy Mountain facility is located in the desert. There is one other company in the proximity, The Amacs Magnesium Company. The Hill Airforce Range is approximately 7 mile North of facility.

H. Other key topographic features:

Located in the Salt Lake Basin.

I. Traffic patterns:

The line that forms for incoming traffic is thirty feet to the east of the PCB activity areas, see Closure Appendix D. Located opposite of this road is Cell-x, the PCB landfill. All road surfaces are clay and lime fines mixtures. The roads are watered continuously with brine water from the well located in the adjacent Grassy Mountains. There are no special weight restrictions.

J. Location and status of underground storage tanks:

There are no underground tanks for waste storage.

K. Location and nature of security systems:

1. 24-Hour Surveillance System

The entire facility is enclosed by a 5 to 6 foot high security fence with two gates. The rear gate is locked at all times, and entrance is gained by the use of a punch code known by a few key employees. The front gate is locked at night and monitored 24 hours by a security guard in the guard shack located on the map in Closure Appendix E.

2. Barriers and Means to Control Entry

The entire USPCI facility is fenced as show on the attached map, Closure Appendix E. Access is through code locked gates and the guard shack located on the incoming roadway. The PPM facility is located within the USPCI facility as indicated on the map in Closure Appendix B.

3. Warning Signs

The following warning signs are posted at entrances and approaches to the active areas of the facility by PPM, Inc.; (See Sign Location Maps, Closure Appendix F for sign locations);

TANK FARM

1,16.	FIRE EXTINGUISHER
2.	SAFETY FIRST REPORT ALL UNSAFE CONDITIONS
3,31.	DANGER HARD HAT AREA
4.	CAUTION SAFETY GLASSES REQUIRED
5.	DANGER EMPLOYEES MUST WEAR SAFETY SHOES
6,18.	NO SMOKING
7.	SAFETY FIRST SAFETY SHOWER AND EYEWASH STATION
8,26.	DANGER FLAMMABLE LIQUIDS
9,10,11,12.	FLAMMABLE SOLIDS
13.	DANGER CAUSTIC
14,15.	DANGER You are standing in the venting area of a pressure relief device. You are in a zone of potential danger. You may be injured by escaping pressure, noise, chemicals, and/or fragmenting particles.
17.	ALL DRIVERS CHECK YOUR WHEELS!
19,23.	DANGER SAFETY GLASSES REQUIRED IN THIS AREA
20,25.	DANGER HARD HATS MUST BE WORN IN THIS AREA
21.	DANGER POSITIVELY NO SMOKING
22.	DANGER FLAMMABLE
24.	DANGER SAFETY SHOES MUST BE WORN IN THIS AREA
27,28,29.	DANGER UNAUTHORIZED PERSONNEL KEEP OUT
30.	CAUTION SAFETY GLASSES REQUIRED

WAREHOUSE

1,23,25,26.	EXIT
2,19.	DANGER, HARD HATS PROTECTIVE CLOTHING RESPIRATORS SAFETY GOGGLES SAFETY SHOES REQUIRE IN THIS AREA
3,9,15,17.	DANGER UNAUTHORIZED PERSONNEL KEEP OUT
4.	REPORT ALL INJURIES IMMEDIATELY TO SUPERVISOR
5.	SAFETY FIRST (REPORT ACCIDENTS TO FOREMAN)
6.	USE OTHER DOOR
7.	NO PARKING
8,13.	EYE PROTECTION AND PROTECTIVE CLOTHING REQUIRED BEYOND THIS POINT
10,14,16,20.	NO SMOKING
11.	SAFETY FIRST (REPORT ALL UNSAFE CONDITIONS)
12,22,24.	FIRE EXTINGUISHER
18,21.	NO PARKING IN DRIVEWAY

L. Closed PCB Units

There are no closed PCB units at Grayback Mountain.

4.1.4 Description of environmental conditions on-site

A. Proximity to surface waters including ponds, lagoons, wetlands and storage reservoirs

None in proximity to facility. See Topographical maps in Closure Appendix A.

B. Proximity to public or private drinking water sources

Water for drinking is Bottled.

C. Sewer location and design which could result in contamination of sewers or sewage treatment systems from PCB spills.

There are no surface sewer collection areas on the facility. The warehouse building has an adjoining office which has a bathroom, which is served by a septic tank. The human waste is periodically pumped solidified and placed in USPCI Grassy Mountain's RCRA cell.

D. Location of nearby grazing lands, farms, and vegetable gardens

20 miles to nearest grazing areas.

E. Presence of a shallow well, ground water near the surface, or which poses a high potential for ground-water contamination

1. There are no known injection or withdrawal wells either on or off-site within 1000 feet of the facility.

2. There are no known intermittent streams within 1000 feet of the facility.

3. There are no other known sources of ground waters that would be affected by PCB contamination.

4.1.5 Detailed description with engineering drawings

A. CERTIFICATION STATEMENT (40 CFR 761.3)

Under the civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Cary D. Mans

Cary D. Mans
Facility Manager
PPM, Incorporated

B. Roof and walls

The PCB storage areas are in warehouse 1. The buildings walls and roof are in good repair and prevent rain water from reaching stored PCBs and PCB items.

C. Flooring

The Warehouse has a concrete floor with 12,687 square feet of bermed space as indicated on the floor plan, Closure Appendix B. There are no expansion joints on the floor. The floor is inspected weekly for crack or damage to sealed joint and repaired accordingly.

D. Curbing and Containment Volume

Curbing and Material of Construction Information

At the time the floor was poured reinforcement bar was placed to provide support for the curbing that was poured a few days later. The new concrete floor was freshly cured and required no surface preparation. Additional reinforcement bar was wired to the vertical studs of bar imbedded in the floor. This additional bar consisted of two strands, one above the other running parallel and horizontally around the area that was to form the berm. Wooden forms were constructed around the reinforcement bar and the curbing was poured using medium strength concrete.

Containment Volume

	warehouse one			
	Area A	Area B	Area C	
Length (ft)	40	40	80	29
Width (ft)	44	44	19	29
Height(ft)	1	1	1	1
Gross Volume (cu. ft)	1760	1760	2361	
Gross Volume (gal.)	13165	13165	17660	
Sump Volume (gal.)	239	60	180	
Ramp Volume (gal.)	718	239	479	
Net Volume (gal.)	12686	12985	17361	
Capacity (gal.)*	27355	28002	0 - No Walls	
Maximum Number of Containers That Can Be Stored*	497	509		
Maximum Number of Containers That Will Be Stored**	400	379		
Size of Containers (gal.)	55	55		

* The Capacity and Maximum Number of Containers for each berm is determined by the following equation:

$$X = [Vn - (X/(110\ gal)) \times Ad \times Hb \times (7.48\ gal/cu\ ft)] \times 4$$

Where X = Berm Capacity in gal.
Vn = Volume of Berm Plus Sump Volume Minus Ramp Displacement in gal.
Ad = Area of Drum on Floor (For 55 gal. drums, Ad = 3.14 sq ft)
Hb = Height of Berm Wall in feet

The maximum number of 55 gal. drums (or equivalent containers) that can be stored in each berm equals X/55. In the case of containers larger than 55 gal., their volumes are divided by 55 to obtain an equivalent number of 55 gal. drums. For example, a 110 gal. transformer would be equivalent to two 55 gal. drums.

It is assumed that pallets of drums will be stored in stacks two high and that the storage capacity of the berm is equal to four times the volume of the berm minus four times the volume displaced by the drums on the floor, therefore the storage areas conform to containment capacity specifications that net containment volume equal or exceed twenty five percent of the total volume stored or two times the volume of the largest container stored.

** The berm capacity expressed in number of 55 gallon drums equals the operations maximum drums in storage. The historical ratios of material type will be applied to this maximum in storage to calculate closure disposal costs for material in storage.

E. Drain valves, floor drain, Expansion Joints, etc.

The existing floor has no expansion joints, and no floor drains or other openings of any type.

F. Storage pallets outside of storage buildings (including locations and numbers)

Storage pallets are stored inside of storage area berms. New pallets are temporarily stored in area C of warehouse. No pallets are stored outside of storage buildings.

G. Bulk tanks

1. Description of Tanks

Drawings of the tanks locations are provided in Closure Appendix B.

Bulk Pretreatment Tanks			
Tank No.	1	2	5
Year Made	1985	1985	1985
Height, ft	25	25	15
Diameter, ft	12	12	11
Capacity, gal	21,000	21,000	10,600
Construction Materials	All Steel Construction		

Bulk Reaction Tank	
Tank No.	4
Year Made	1985
Height, ft	15
Diameter, ft	11
Capacity, gal	10,600
Construction Materials	All Steel Construction

Decontaminated Oil Storage Tanks		
Tank No.	6	7
Year Made	1985	1985
Height, ft	15	25
Diameter, ft	11	12
Capacity, gal	10,600	21,000
Construction Materials	All Steel Construction	

Vacuum Degasifier Tank	
Year Made	1981
Hight, ft	2
Diameter, ft	4
Capacity, gal	200
Construction Materials	All Steel Construction

Mobile Treatment Unit #6

Tank No.	#1	#2
Year Made	1985	1985
Length, ft	5.5	5.5
Diameter, ft	4	4
Capacity, gal	520	520
Construction Materials	All Steel Construction	

Tanks 1, 2, 4, 5, 6, and 7 were designed and constructed according to the American Petroleum Institute standard 650 (API 650), Welded Steel Tanks For Oil Storage, Edition 7.

The API 650 standard encompasses all the parameters necessary for the design and construction of the tanks including;

Materials of construction.

Design of bottoms, roofs, shells, joints, connections, and appurtenances.

Anchoring.

Fabrication and construction.

Testing, repairs, and inspection.

Welding.

Marking.

There are two 520-gallon tanks located on the mobile treatment unit. The RRT and WWT were designed and constructed according to the Underwriter's Laboratories Standard 142 (UL 142) Steel Above Ground Tanks for Flammable and Combustible Liquids.

The UL 142 standard encompasses all the parameters necessary for the design and construction of the tanks including;

Materials of construction.

Capacities, sizes and dimensions

Design of bulkheads, shells, joints, connections, and appurtenances.

Fabrication and construction.

Testing, repairs, and inspection.

Welding.

The pertinent sections of UL 142 for the design of the tanks are articles 1.1 through 4.4 for all tanks, and 5.1 though 12.4 for horizontal tanks.

A drawing of the MTU (Trailer #6) is show in Closure Appendix G. Details and drawings of the tank farm foundations are shown in the Proposed Treatment Facility Plans - sheet 2, 3, 4 and 5, Closure Appendix H.

All tank seams were welded in accordance with the applicable standards to which each tank was built. Refer to the appropriate standard for more detailed information. Tanks #1, #2, #4, #5, #6, and #7 have the following spill prevention controls.

Float type level gauges.

Before pumping into the above tanks the level is checked to determine the amount of material that may be pumped without possibility of spill. Use of these gauge readings are the normal procedure for determining the free board space.

Internal emergency valve with fusible link.

Each of the above tanks have internal emergency valves with fusible links on the bottom valve openings. These valves are designed to automatically close if the temperature at that valve is above a predetermined setpoint. This safety factor is designed to seal the tank in case of fire.

Emergency Vent.

This vent is designed to remain closed until a predetermined internal tank pressure is exceeded. This valve is meant to open if the tank requires additional venting capabilities, and provide additional protection against tank rupture.

Normal breathing vent.

This vent provides for the normal venting of the tank during operation. This vent is normally closed, but opens at predetermined set points for pressure or vacuum.

Manual valving.

Each tank, in addition to the internal emergency valve, has a manual ball valve that can be visually checked to determine its' open or closed status.

Physical binding of quick connect couplings.

This procedure insures that all quick connect couplings are wired or otherwise physically bound together to prevent accidental line decoupling during PCB transfer.

Contingency Plan

The tank farm area that contains all tanks described in this section has a written protocol for the prevention and handling of spills or other emergencies.

Spill kit.

The tank farm area described in this section has a spill kit that contains supplies for spill containment and clean up.

The vacuum degasifier tank has the following spill prevention controls:

Sight glass.

Liquid level in the vacuum degasifier (alternately referred to as drier) can be visually inspected through sight glasses. This visual inspection is the normal procedure used to provide adequate free board space. These sight glasses are located at the front and rear of the tank.

Manual valving.

The vacuum degasifier has manual valving that can be visually checked to determine it's open or closed status.

Tanks on mobile treatment unit (MTU) have the following spill prevention controls:

Sight tubes.

Tanks on the MTU have sight tubes for visual checks of liquid level. This is the normal method to determine the required free board space in the respective tanks for chemical or water addition.

Audio and visual high limit alarms.

Ball type level switches activate relays in the mobile treatment unit's panel box at a preset free board level which activate an audio alarm and a rotating red beacon. These controls alert employees that the level in the tank is exceeding the acceptable normal free board.

Automatic pump shutdown on high limit alarm.

After activation of the relays for the audio and high limit alarms a time delayed pump cut-off relay is engaged which shuts down the MTU's pumps for the respective tank. The time delay on this relay is employed to prevent pump shut-down from false high level signals due to internal splashing or wave action.

Graphite rupture disks.

Graphite rupture disks are located on both tanks on the MTU. These rupture disks are designed to break at a predetermined internal tank pressure in the event that additional venting is required. The additional venting capacity is employed to prevent tank rupture and to reduce the possibility of a spill.

Physical binding of quick connect couplings.

This procedure insures that all quick connect couplings are wired or otherwise physically bound together to prevent accidental line decoupling during liquid transfer.

2. Tank Management Practices

Instrumentation, and process flow for tank systems are located in Closure Appendix G and I for reference purposes, respectively. The Instrumentation in Appendix G is Typical of PPM Trailer #6. As the tank systems are very small, the piping system is comparably small and easy to manage. However, minor repiping is occasionally necessary for operational purposes.

The following practices are employed by PPM Inc. in the handling of their tank systems as a means of spill prevention;

Typical inlets and outlets to tanks and quick connect couplings are preceded by a ball valve that enables operators to shut off the flow of liquids before connecting or disconnecting any hoses or other parts of the tank system for repairs, maintenance or regular operations.

Most lines in the system are designed to allow them to be pumped dry by the pumps in operation before being opened or closed.

When appropriate,. connections and breaks in lines are done with an appropriately sized spill pan or absorbent pad underneath the connection so as to reduce the possibility of spills or spatters.

Heavy duty flexible oil transfer hoses, or their equivalent are used.

Coupling connections are typically tied off with wire or an equivalent fastener to reduce the possibility of their coming undone while undergoing a transfer operation.

In order to minimize the potential for leaks from tanks during loading or unloading, the inlet and outlet lines of the large tanks are equipped with a locking ball valve that is locked in the closed position with a padlock when the facility is closed.

To minimize de minimus releases from lines, couplings are typically covered with fitted covers (if male) or plugged (if female) when not in use.

All lines are checked for obvious leaks and for correct valve position by a chemical technician or crew chief prior to any transferring operation taking place.

The following equipment and procedures are typical of those used to prevent the overfilling of the eight large tanks (referred to as tanks 1, 2, 3, 4, 5, 6, 7, and 8) during transfer and process operations;

All tanks are equipped with level sensing devices that enable operators to determine the level of the liquid in the tank to the nearest half inch. The PPM, Inc. process is a batch process, where only a negligible amount of processing material is added to the waste being processed from the start to the finish of the decontamination procedure. Thus, there is very little chance of an overfill occurring during processing of the

PCBs. Ample freeboard is left in the tanks for addition of processing chemicals prior to the start of the process and there is no other additional flow through the system while the process is occurring.

All tank levels are recorded in the daily tank farm log at the beginning and end of the working day. Whenever any transfer has occurred from one tank to the other the affected tanks are rechecked to verify liquid levels. These figures are checked by operations personnel to ensure that no mistakes have occurred and that, within reason, all material is accounted for.

Prior to any transfer operation taking place, the operations personnel check the level sensing device on both tanks to make sure that it is the same as recorded on the operations log. The amount to be transferred is then calculated from a conversion chart that converts the level in the tank to gallons of material and vice-versa. The final levels for both tanks are calculated, the transfer lines are checked for valve position and leaks, and the transfer process is begun. At all times during the PCB transfer process, there is an employee in the area of operations. An operations employee checks the level sensing devices at appropriate intervals to ensure that the predetermined amount is transferred, and that overfill does not occur. At the end of the transfer

process, an operations employee records the transfer in the daily Tank farm log, recalculates the final levels in the tank, and checks the level sensing device to ensure that all calculations were correct. The new levels of the tanks are then recorded in the daily operations log.

The following equipment and procedures are employed to prevent the overfilling of the two 520-gallon tanks (the RRT and WWT) located on the MTU. For specific location, refer to the accompanying diagrams of the unit (Closure Appendix G).

Both tanks are equipped with clear plastic sight gages on both ends of the tank. These sight gages enable the operators to see how close they are to filling the tank to the required level, which is clearly marked next to the sight gages on the tank. The sight gages are located so the operator can see them while within reach of the valves that cut off the flow into the tanks. Additionally, there are high level alarm floats inside each of the tanks that activate a visual and audio alarm and shut off the input pump when the high level is reached inside the tank. The visual alarm consists of a red warning light on the control panel and an audio alarm that is located on top of the control panel. The audio alarm consists of a Klaxon that emits a loud buzzing tone when the high level is reached. The piping configuration

for the MTU provides bypass lines for both tanks, as indicated in the accompanying diagrams, that allow the flow to be redirected back to the bulk reactor tank (BRT) from which it came by opening one valve and closing another. Both pumps on the unit have well-marked on/off switches within easy reach on the control panel, and there is a power lever that causes immediate cessation of all pumping on the unit when turned to the off position. There is a chemical technician or crew chief present monitoring the transfer while either tank is being filled.

The following equipment and procedures are used to prevent overfilling of the vacuum degasifier unit;

There are two high level floats inside the vacuum degasifier tank.

The first high level float is a float that is set to activate when the predetermined "full" level of the tank is reached. At this point, the tank is filled to the maximum point desired for processing, although there is more capacity available. This float is connected to an electrically-actuated inlet valve that closes when the tank level reaches the "full" level. This cuts off further flow into the tank, but keeps the inlet pump running so that when the level drops when oil is emptied

from the vacuum degasifier, the valve is automatically opened by the float dropping and the tank is refilled. The inlet pump is a centrifugal pump that can run safely without liquid moving through the pump system.

The second high level float is set to activate when a level higher than "full" is reached (generally as a result of foaming or splashing of the materials within the tank). This float automatically shuts down all of the equipment connected with the vacuum degasifier unit including the centrifugal pump, both the vacuum booster pumps and the vacuum blower. At this point, the inlet valve to the tank would already be closed by the first high level float.

A bypass system for when the flow into the tank is cut off is not required, as the centrifugal pump that feeds the tank can run indefinitely without discharging any of the liquid within its chamber. Thus, the pump acts as its own bypass system.

3. Secondary Containment Requirements

3a. Materials Managed in the Tanks

The following table indicates what is managed in each tank:

Large Tanks

Tank No.	1	2	4	5	6	7
Capacity, gal	15000	15000	15000	10000	10000	15000
Contents	A*	A*	A*	A*	B**	B**
Construction Materials	All Steel Construction					
PCB/Containment Incompatibility	None	None	None	None	None	None

Vacuum Degasifier Tank

Capacity, gal	160
Contents	A*
Construction Materials	All Steel Construction
PCB/Containment Incompatibility	None

Mobile Treatment Unit

Capacity, gal	520	520
Contents	A*	C***
Construction Materials	All Steel Construction	
PCB/Containment Incompatibility	None	None

A* PCB contaminated Mineral Oils, PCB concentration less than or equal to than 10,712 parts per million.

B** Decontaminated Mineral Oils, PCB concentration at Non-Detectable Levels.

C*** Sodium hydroxide solution, PCB concentration less than 2 parts per million.

3b. Containment System Design

The secondary containment area was constructed of reinforced concrete on grade, over suitable fill material. The following is a list of the materials used in the construction of the secondary containment system and their specifications;

Concrete

The concrete used was normal weight concrete with a compressive strength of 3500 psi @ 28 days curing time. Air entrained concrete shall be used for all concrete exposed to weather

Reinforcing Steel

All reinforcing steel conformed to ASTM Standard Specification A185, and A82.

The secondary containment system was built in three separate parts; the tank foundations, the berm wall, and the floor. See design and construction drawing, Closure Appendix H, for details of construction including keying between berm wall and floor slab as well as water-stops. The secondary containment system is designed and maintained to be free of cracks or gaps. The containment area is inspected at least weekly according to the inspection schedule (see Closure Appendix J). When a crack in the floor, berm walls or internal ramps is noted, it is repaired as is appropriate. Typically, the repairs are accomplished by sealing the cracks. First the cracks are thoroughly cleaned and any loose chips are removed, then an appropriate sealant is applied. If a gap is noted in the floor, berm walls or internal ramps, it

is repaired as is appropriate. This is typically accomplished by roughening the surfaces of the gap and applying an epoxy bonding agent to the surfaces. This agent seals the surface and improves the adhesion of the filler material (concrete) that is then poured and set inside the gap if necessary. After the filler material has set, the edges of the repaired area are sealed again on all exposed surfaces using an appropriate sealant. The appropriate methods for repairing cracks or gaps may be employed (e.g., replacing the affected area),... as long as the crack or gap is repaired in a timely manner. Further, interim measures may be employed to minimize the potential for escape of spilled material should the repair take an extended period of time (e.g., days) to accomplish.

The following sealants have been used in the past or are being used presently for the sealing of containment areas and crack repair by PPM in their daily operations;

(NOTE: The following table of sealants is being given to give the reader an indication of typical sealants utilized on-site and is not meant to be restrictive or inclusive of all sealants which may be used in the future.)

Ceilcote 648-I (Epoxy Grout)

Tensile Strength: 2600 psi (ASTM C 307-61 Modified)

Compressive Strength: 14,000 psi (ASTM C 579-75 Method B)

Flexibility: No Data

Shrinkage: 0.0008 in/in (SPI ERF 12-64)

Hardness: No Data

Water Absorption: 0.14% (ASTM C 413-75)

Moisture Vapor Permeability: No Data

Abrasion Resistance: 'Better than concrete'

Chemical Resistance: Non-oxidizing Mineral Acids and Salts, Some Organic Acids and Solvents

Dural 1004 (Polyurethane Coating)

Tensile Strength: No Data

Compressive Strength: No Data

Flexibility: Passes 1/8 in Mandrel Test (ASTM D 522-41)

Shrinkage: No Data

Hardness: No Data

Water Absorption: No Data

Moisture Vapor Permeability: Passes A-E-96 Metric Perm

Abrasion Resistance: 50-60 Liters, mil (ASTM D 968-51)

Chemical Resistance: Acetone, Methyl Ethyl Ketone, Isopropyl Alcohol, Phosphorus, Amines, Tricresil

Phosphate, Hydrochloric Acid 20%, Skydrol

Florock MO-075/UO-106 (Quick Patch Epoxy System)

Tensile Strength: No Data

Compressive Strength: No Data

Flexibility: No Data

Shrinkage: 'Minimal'

Hardness: Shore D, 70

Water Absorption: No Data

Moisture Vapor Permeability: No Data

Abrasion Resistance: No Data

Chemical Resistance: No Data

Permagile Uniweld (Epoxy Bonding Agent)

Tensile Strength: 3000 psi (ASTM D 638)

Compressive Strength: 10,000 psi (ASTM D 695)

Flexibility: No Data

Shrinkage: No Data

Hardness: Shore D, 75-80 (ASTM D-2240)

Water Absorption: 0.3% Maximum (ASTM D 570)

Moisture Vapor Permeability: No Data

Abrasion Resistance: No Data

Chemical Resistance: No Data

Sikaflex-1a (Elastomeric Sealant/Adhesive)

Tensile Strength: 140 psi (ASTM D 412)

Compressive Strength: No Data

Flexibility: No Data

Shrinkage: No Data

Hardness: Shore A, 40±5 (ASTM D-2240)

Water Absorption: No Data

Moisture Vapor Permeability: No Data

Abrasion Resistance: No Data

Chemical Resistance: Water, Diluted Acids, Diluted Alkalines

Refer to Manufacturers' Specifications in Closure Appendix K for additional details on sealants.

3c. Containment System Capacity

Except for the MTU, which is equipped with a liner pan, the containment system in the Tank Farm consists of three separate bermed liners as shown in Closure Appendix B

3d. Control of Run-off

As the previous sections have demonstrated, the secondary containment system was designed and built to prevent the migration of liquids to the environment. (See sections 4.1.5 G 3b, and 4.1.3 E 3). Any precipitation, leaks or spills that enter the covered area of the secondary containment system will be collected at the sump in the southwest corner, as the containment area slopes from the northeast to the southwest a vertical distance of six inches. Any precipitation, leaks or spills that enter the adjoining unroofed sections will be collected in their sumps, or at the bottom of the ramp section, depending on the area. Once collected, the materials are disposed of according to the following section, section 4.1.5 G 3e.

3e. Removal of Spills or Leaks from the Containment System

The daily inspection of this area (Closure Appendix J) will reveal any collected liquids in the sump or any spilled or leaked material on the floor.

Collected liquids in the sump will be pumped into an appropriate container. The material will be considered to be PCBs, unless the liquid is tested and found to be below the applicable Federal, State and local levels. It will be stored, treated, and disposed of in accordance with all applicable regulations.

The removal of spilled or leaked material from the containment system that has not migrated into the sump will be accomplished using appropriate clean-up procedure. For illustrative purposes, the following example is given:

1. The liquids will be contained from spreading by isolating the areal extent of the liquids with a dike of liquid absorbing material, if the material is still flowing.

2. All unaffected containers and equipment will be isolated from the affected area, if necessary, to facilitate proper clean-up.

3. Liquids will be pumped (either by using a wand attached to a displacement pump that sucks the liquid through a hose into an undamaged container or by using a wet/dry vacuum that sucks the liquid into a drum), scooped up (using an appropriate implement), absorbed, or otherwise transferred into a suitable container.

4. Absorbent material will be used to remove all remaining liquids and moisture from the affected area until the area is in its original dry state.

5. Solid materials (including personal protective equipment) that came into contact with the liquid or were affected through their use in the cleanup operations will be placed into appropriate containers.

All recovered material from the cleanup, and all liquid material that enters the containment system will be stored, treated, and disposed of as PCB material, if appropriate.

4. PCB Materials Volatility

The PCB materials handled, those being PCB-contaminated Mineral Oils, have a vapor pressure well below 78 mm Hg @ 25 degrees Celsius. The Mineral Oil itself has a vapor pressure that varies depending on the source but approximately 0.01 mm Hg @ 20 degrees Celsius (See Closure Appendix O, MSDS sheet for Exxon Univolt 60 Electrical Insulating Oil as an example of this type of material). The vapor pressure of PCBs varies depending on the amounts of the various aroclors in the mixture. The vapor pressures of the aroclors vary from non-detectable to 0.001 mm Hg @ 100 degrees Fahrenheit (See Closure Appendix P MSDS sheet for Polychlorinated Biphenyls). As both of these materials are substantially below the limit of 78 mm Hg @ 25 degrees Celsius, the PCB-contaminated Mineral Oils can be exposed to atmospheric conditions without migrating to the environment. Regardless of this fact, in accordance with other Federal regulations (see 40 CFR 761) PCB liquids are never stored in open topped containers.

4.2 Disposal of PCB Waste Inventory:

4.2.1 Maximum inventory

A. Provide design capacity

	# of 55 gal. Drums.	Capacity
Warehouse #1		
Area A	400	22,000 gal
Area B	270	14,850 gal
	2 3000 gal storage tanks.	6,000 gal
		42,850 gal
Area C	for storage of new drums, oil dry and unloading of trucks.	

Tank Farm

TANK #	CAPACITY	HEIGHT	DIAMETER	SERVICE
1	21,000 gal	25'0"	12'0"	PCB Pretreatment Tank
2	21,000 gal	25'0"	12'0"	PCB Pretreatment Tank
4	10,600 gal	15'0"	11'0"	PCB Bulk Reactor Tank
5	10,600 gal	15'0"	11'0"	PCB Pretreatment Tank
RIG	520 gal	5'6"(long)	4'0"	Mobile Treatment Unit
	76,320 gal			

B. Estimate of maximum types and quantities of:

	# of 55 gal. Drums or Equivalent
PCB Articles (see below)	
PCB Article Containers	
1. Empty drums	100
2. Treatable oil (see below)	
3. Capacitors (see below)	
4. Debris	10
5. non-treatable liquids (see others)	
PCB liquids in Bulk Treatment Tanks	1387 (76,320 gal)
PCB liquids in Bulk Storage Tanks	109 (6,000 gal)
PCB Containers (treatable oil)	160
PCB Capacitors	100
PCB Transformers (drained) (Assumes worst case - all transformers over 500 ppm)	300 (EQ)
PCB Contaminated Electrical Equipment	None
Other PCB's (non-treatable oil)	100
Total PCB Inventory	779

4.2.2 Disposal of inventory

A. Details to ensure compliance as a PCB waste generator

PPM has routinely been a generator of other materials through the PPM chemical treatment process and is aware of the preparation of manifests, recordkeeping, and tracking the delivery and disposal of materials. PPM will comply with all applicable rules.

Compliance with Manifest, Recordkeeping and Reporting Requirements

PPM, Inc. PCB Recordkeeping

PPM, Inc. utilizes a database management system to track PCB's from arrival at PPM to final disposal at PPM or an outside disposal facility. For each item received, every transaction (i.e., storing drums in warehouse, treating bulk loads of oil in bulk tanks, pumping drums into Bulk Pretreatment Tanks, draining and flushing transformers, decontaminating oil, shipping to an outside disposal facility) is recorded and entered into the PPM computer system. At any given time a particular item can be looked up to see the progress it has made towards its final disposal.

When material arrives at PPM, the drums, crates or transformers and capacitors by themselves are each given a unique number for tracking purposes. This identification number is associated with the manifest the material arrived on along with a job number that identifies the broker and generator. Material types that PPM would receive are: Bulk loads of Mineral Oil up to 10,712 ppm PCB, drums of Mineral Oil and other PCB contaminated liquids, drums of PCB debris, PCB and PCB contaminated transformers and articles and drums and/or crates of PCB capacitors.

BULK LOADS OF OIL UP TO 10,712 PPM PCB

Upon arrival at PPM, a bulk tanker load of Mineral Oil is tested to assure that it is within PPM's treatability range. Once the PCB level has been determined, and is below 10,712 ppm, the Mineral Oil is then pumped into Bulk Pretreatment Tanks. There is no unit to assign a unique identification number to, so the bulk load is tracked by the job number. EPA has deemed that PPM treat bulk Mineral Oil on a first in, first out basis, so, once the bulk load has been entered into the computer it will be treated when its becomes the oldest oil in the system. Upon treatment, PPM will issue a Certification of Decontamination to the customer. It is possible to

receive two separate certifications for one tanker load as the tanker load could be split working on the first in, first out system.

DRUMS OF MINERAL OIL AND OTHER PCB CONTAMINATED LIQUIDS

After a drum receives an identification number, it is tested to determine PCB level and treatability. The tests will determine the Mineral Oil can either be treated by the PPM, Inc. Process or shipped for incineration.

Transactions recorded for treatable Mineral Oil would be initial warehouse storage, transfer of material from drums to bulk pretreatment and decontamination. Once drums have been pumped into bulk pretreatment, they follow the first in, first out principle just as bulk Mineral Oil does. Upon treatment, PPM will issue a Certification of Decontamination.

Transactions recorded for incineration would be initial warehouse storage, shipment to an outside disposal facility and certification from disposal facility. These drums are counted with other generator material unless disposal dates become a problem.

When PPM ships material to another facility, PPM acts as a broker, so the shipping manifest list USPCI/PPM/Multiple Generators in Section 3 of the Hazardous Waste Manifest, an additional attachment is made to the manifest listing generators, material for that generator, and the accumulation dates of their material. Upon receipt of the outside disposal facility's certification, PPM will issue the customer a letter stating the date and name of the final disposal of material.

DRUMS OF PCB DEBRIS

All PCB debris received is placed in the approved chemical waste landfill. The shipment of PPM created debris is performed on an in house transfer to the landfill on site.

PCB AND PCB CONTAMINATED TRANSFORMERS & ARTICLES

Upon arrival, all transformers and articles are given identification number and tested for PCB level. If the PCB level determines the transformer to be greater than 500 ppm, PPM will process the transformer for flushing. PPM prefers to receive transformers that have already been drained to insure that they will not spill while being transported over

the road. However, if a transformer is received full of oil, PPM will drain it. The total possible transactions recorded for transformers would be initial warehouse storage, draining, flushing, shipment to a chemical waste landfill, and Certification of Disposal. PPM records the time and date that flush oil is added and removed so that compliance with the TSCA regulation of letting flush oil stand for at least 18 hours can be shown. After the carcasses have been processed, they are shipped to a chemical waste landfill for disposal. Only transformers over 500 ppm are handled by PPM. As we are part of the landfill disposal facility, USPCI issues Certificates of Disposal for all transformers. The units are tracked on-site through an in-house transfer system similar to manifesting the materials.

DRUMS AND/OR CRATES OF CAPACITORS

When drums and/or crates of capacitors are received, they are given identification numbers and stored in the warehouse until they can be shipped to an incinerator. Transactions recorded for capacitors would be initial warehouse storage, shipment to incinerator and Certification of Disposal would follow the same guidelines as described in the shipment of oil for incineration.

In addition to recording all of the transactions of any particular item, PPM, Inc. also records the date the material was taken out of service for disposal to assure the generator is in compliance with the one year deadline for disposal and the assurance of notification otherwise.

B. Estimate of maximum inventory to be sent off - site

Refer to section 4.2.1 - B for worst case scenario.

C. Description of any treatment prior to transport, if applicable

Tank Decontamination

Tanks containing oil with greater than 50 ppm PCBs will be landfilled at the onsite chemical landfill. Protective clothing should include the following:

Hard Hat
Face Shield
Saranex Suit
Nitrile Gloves with Latex Inner Liners
Rubber Steel Toe Boots
Saranex Booties
Respirator (half-face) with organic vapor cartridge

D. Methods and arrangements used for PCB waste removal and transportation off-site to approved storage and disposal facilities

a) Tank Farm Waste Removal

In the event of closure, each tank will be drained dry by using an on-site pump to remove oil through the bottom valve of each of the tanks. Oil will be pumped directly into a bulk oil tanker of at least 5500 gallons capacity using flexible hoses. Pumping rate will be a minimum of 60 GPM. Only oil from PCB oil treatment tanks will be designated for disposal. Clean oils contain non-detectable levels of PCB and, thus, may be sold.

b) Storage Container Removal.

The on-site forklifts will be used to remove the waste containers. All wastes will be sent to EPA approved facilities with appropriate disposal technology and capability.

Liquids will be pumped from drums into a vacuum tank truck and transported to an appropriate facility.

Approximate loading time per tanker is 5 hours. A tanker will hold approximately 80 drums of liquid.

Solids such as capacitors, debris drums and transformers will be loaded onto flatbed trucks and transported to an appropriate facility. Approximate loading time is 4 hours to load 70 drums per truck. Drums are assumed to weigh approximately 500 lbs. A 1000 lb. transformer would be considered as two (2) drums.

E. Description of treatment or disposal methods at the final treatment or disposal facilities

1) Tank Farm Disposal

The PCB oil in the Tank Farm treatment area has been designated as suitable for chemical detoxification before being pumped into the tanks. Thus, this oil can be sent to an outside facility (i.e. Aptus, Coffeyville, Kansas) for detoxification using similar treatment technology as that employed at PPM. This oil can be received at such a facility in bulk tankers.

2) Storage Container Disposal

Disposition of each category is as follows:

Treatable Oil	Chemical Treatment
Askarel, untreatable oil	Incineration
Transformers (drained)	Landfill
Capacitors	Incineration
Debris	Landfill

Treatable oil will be sent to Aptus, in Knowles, Utah. Items to be incinerated will be sent to Aptus in Knowles, Utah. Landfill Items will be sent to Grayback, Utah.

F. Bulk tank removal, transport, tracking, and off-site disposal of tank capacity

Contaminated tanks will be removed using rigging and a hydraulic boom crane. Tanks will be loaded onto lowboy trailers and transported to the on-site chemical landfill.

G. Proposed schedule to complete disposal within 90 days from closure commencement

CLOSURE SCHEDULE

The Regional Administrator shall be notified at least 60 days prior to the beginning of closure Activities. This notification shall include a work plan for complete closure of the facility. The schedule below indicates the activities and actions to take place after closure is initiated. The day closure activities are initiated is assumed to be day 1.

ACTIVITY	DAY
A. Tank Farm	
1. Inventory Removal	1-3
2. Tank Decontamination	3-5
3. Sampling and Analysis	4-6
4. Tank Removal	6-8
5. Area Decontamination	8-15
B. Container Storage Areas	
1. Inventory Removal	15-45
2. Area Decontamination	45-70
3. Sampling	70-80
C. Auxiliary Equipment	
1. Decontamination and/or disposal	15-45

4.3 Closure Plan Sampling, Decontamination, and Compliance with the Spill Clean-up Policy.

4.3.1 Equipment And Area Classification.

4.3.1.1 Tank Farm

General Discussion

The treatment area is located inside of the USPCI Grassy Mountain facility located 3 miles east and 7 miles north of exit 41 off of I-80 in Clive Utah. The entire facility is monitored by 24 hour security and all persons entering and leaving the facility must sign at the guard post.

The equipment and structures in this area are located in what is considered to be a non-restricted access area because of its proximity to commercial areas. Surfaces below six (6) feet in elevation are considered to be high contact industrial surfaces. Surfaces over six (6) feet in elevation are considered to be low contact industrial surfaces.

These surfaces include impervious solid surfaces such as metals, Aluminum siding and fiberglass. Additionally, Non-impervious solid surfaces are present such as wood and concrete.

Use		Structures/Equipment Construction Materials	Spill Cleanup Policy Classification Of Materials, Structures, and Equipment	Numerical Cleanup Levels Applicable from the Spill Cleanup Policy
Facility Structure Components:				
	Containment Berm	Concrete	2	4
	Roof	Metal	1	3
	Structural Steel	Metal	1	3
Surrounding Soil, pavement and vegetation:	NA	NA	Soil	10 ppm
Piping:	Liquids Handling	Steel	1	3
Equipment:		Metal	1	3
Pallets:	Material Handling	Wood	2	Chemical Landfill
Bulk Tanks:	Treatment	Metal	1	3
Other:	Mobile Treatment Unit	Metal	1	3

1 - Impervious Solid Surface
2 - Non - Impervious Solid Surface
3 - 10 micrograms / 100 sq. cm PCB
4 - 10 ppm PCB

The PPM, INC. portion of this facility consists of two areas. These areas are the warehouse and the PCB destruction area.

The PCB destruction area is divided into three sections labeled areas 1, 2, and 3 on the attached drawing, Closure Appendix B. This area is only used for the decontamination of PCB contaminated oils and storing of caustic water in drums for shipment to the on site stabilization and landfill area. Only PPM authorized personnel are allowed on the premises.

Area I consists of a 48'9" x 64'5" x 1'2" bermed area containing three tank pads, one sump, and one entry ramp. Area II consists of a 20' x 64'5" x 1'4" bermed area containing two sumps and one entry ramp. Area III consists of a 27' x 60'5" x 3'7" bermed area containing a sump, three (3) tank pads, and a weir cut into the wall at the 3'4" height emptying into Area II.

The floors and walls are inspected on a regular basis for signs of cracks or other deterioration. If such signs appear, then all defects are machined and cleaned out so that an oil and water resistant concrete patch and sealant material can be applied.

All tanks have secondary containment and are not subject to the contingent closure plan requirements of 40 CFR 264.197(c).

4.3.1.2 Container Storage Areas

General Discussion

Grayback Mountain has one building with inside bermed storage areas used for PCB container storage. All containers shall meet 40 CFR 761.65 (C) 6. This building is designated as PPM warehouse one.

The equipment and structures in this area are located in what is considered to be a non-restricted access area because of its proximity to commercial areas. Surfaces below six (6) feet in elevation are considered to be high contact industrial surfaces. Surfaces over six (6) feet in elevation are considered to be low contact industrial surfaces. These surfaces include impervious solid surfaces such as metals, Aluminum siding and fiberglass. Additionally, Non-impervious solid surfaces are present such as wood and concrete.

Identification and classification of items to be Decontaminated

	Use	Structures/Equipment Construction Materials	Spill Cleanup Policy Classification Of Materials, Structures, and Equipment	Numerical Cleanup Level Applicable from the Spil Cleanup Polic
Facility Structure Components:				
	Roof	Wood	2	4
	Roof	Concrete	2	4
	Walls	Concrete\Brick	2	4
Surrounding Soil, pavement and vegetation:	NA	NA	Soil	10 ppm
Berm:	Containment	Concrete	2	4
Equipment:	Various	Various	1,2 As Applies	1,2 As Applie
Pallets:	Material Handling	Wood	2	Chemical Landfil
Full Drums:	Container	Metal	Disposal	Disposal
Empty Drums:	Container	Metal	Disposal	Disposal

1 - Impervious Solid Surface
2 - Non - Impervious Solid Surface
3 - 10 micrograms / 100 sq. cm PCB
4 - 10 ppm PCB

Maximum containers stored in each bermed area is as follows:

Area A - 400 containers maximum

Area B - 379 containers maximum including Two (2) 3000 gallons tanks.

Area C - for pumping and crushing drums

These areas are used for storage of various PCB material including oil suitable for chemical treatment, askarel (pure PCB), transformers, capacitors and debris. The historical average ratios of these materials in storage are as follows:

Treatable Oil	28%	or	160 drums
Askarel	14%		100 drums
Transformers (drained)	42%		300 drum(EQ)
Capacitors	14%		100 drums
Debris	2%		10 drums

These ratios will be used in conjunction with the 779 drum maximum in storage to calculate disposal cost of material in the event of closure.

4.3.2 Numerical Standards

Numerical standards designate the cleanup levels of all areas. Structures, and equipment in the facility and are included in the Closure Plan. The numerical Standards set forth in the Spill Cleanup Policy are used in this Closure Plan and are based upon the classification described in 40 CRF 761.125(c)(3) and (4).

Because, after Closure, the structures and/or land will be converted to another use, the site shall be cleaned up to the nonrestricted areas requirement (40 CFR 761.125(c)(3)). Target levels for nonrestricted access areas are outlined below:

- High contact outdoor solid surface should be cleaned to 10 micrograms/100 sq. cm (as measured by standard wipe test).

- Low contact, outdoor, impervious solid surfaces should be cleaned to 10 micrograms/100 sq. cm. (standard wipe test).

- Low contact, outdoor, nonimpervious solid surfaces should be cleaned to (1) 10 micrograms/100 sq. cm. or (2) 100 micrograms/sq cm. and encapsulated (though two options are available, EPA retains final authority to disallow the encapsulation option).

- PCB contaminated soil should be removed to 10 ppm, provided that soil is excavated to a minimum depth of 10 inches. The excavated soil should be replaced with clean soil (less than 1 ppm PCBs).

4.3.3 Statistical Sampling Program

4.3.3.1 Safety Plan

The safety plan, which follows, details precautions required to minimize the risk to personnel performing the on-site inspection and sampling. It should be noted that PPM Inc. receives no Non-PCB hazardous (i.e. RCRA) wastes.

PPM, INC

SITE HEALTH AND SAFETY PLAN

FOR SITE CLOSURE

REMOVAL OF PCB CONTAMINATION FROM

OPERATIONS STRUCTURES AND EQUIPMENT

I. Site history

The PPM site is used to detoxify PCB oils, process and store PCB transformers and handle related PCB material for disposal. The statistical sampling program shall show which areas of the site require remediation. Expected concentrations range from as high as 750,000 ppm PCB in liquids to non-detectable levels in surrounding soils and vegetation

Sampling Plans shall follow the prescribed methods as published by EPA in the "Field Manual For Grid Sampling Of PCB Spill Sites To Verify Cleanup".

The PPM site (see Closure Appendix B) is used to detoxify PCB oils and to process PCB transformers and equipment. Analysis will show that the floor of the building is contaminated with PCB's in low levels and must be cleaned to acceptable levels. The area is approximately 6293 sq ft.

II. Hazards

A. Potential of chemical exposure

The chemical contaminant is Polychlorinated Biphenyls (PCB's). PCB's are identified as hazardous chemicals under criteria of the OSHA Hazard Communication Standard (29 CFR Part 1910.1200). The Standard requires that this document mention that PCB's have been listed in the Monographs (1982) - Group 2B and in the National Toxicology Program (NTP) Annual Report on Carcinogens (Third).

The consistent finding in animal studies with PCB's is that they produce liver injury following prolonged and repeated exposure by any route, if the exposure is of sufficient degree and duration. Liver injury is produced by exposures that are less than those reported to cause cancer in rodents. Therefore, exposure by all routes of entry should be kept sufficiently low to prevent liver injury.

Numerous epidemiological studies of humans, both occupationally exposed and non-worker environmentally exposed populations, have not demonstrated any statistically significant causal relationship between PCB exposures and chronic human illnesses such as cancer or neurological or cardiovascular effects. Nor was there any increase in overall cancer mortality as a result of PCB exposure. PCB's can cause dermatological symptoms, however these are reversible upon removal of exposure source.

The following information is from the Monsanto Material Safety Data Sheets, Closure Appendix P.

Physical and Toxicology data CAS: Reference MSDS

Property (Aroclor)	1232	1242	1248	1254
Color (APHA)	100	100	100	100
Physical state	mobile oil	mobile oil	mobile oil	viscous liquid
Stability	inert	inert	inert	inert
Density (lb/gal 25 degree C)	10.55	11.50	12.04	12.82
Flash Point (degree C)	152 - 154	176 - 180	193 - 196	None

For more information consult MSDS, Closure Appendix P.

OSHA Permissible Exposure Limit (PEL) :0.5 mg/m3
NIOSH 10 hr Time Weighted Average (TWA):1.0 mg/m3
Immediately Dangerous to Life or Health:5.0 mg/m3

The primary routes of entry are Inhalation, Skin Absorption, and Ingestion.

Typical symptoms of exposure include: irritated eyes and skin, chloracne, jaundice, and dark urine.

B. Dust

Dust acts as a medium for the transport of chemicals and contamination. Inhalation of dust particles therefore can lead to exposure to contaminants.

C. Noise

A noise hazard can exist in any general construction site especially near heavy equipment. USPCI's standard permissible level for noise is 85 dBA and it will be assumed that the noise associated with operating heavy equipment and concrete saw will exceed this standard.

D. Heavy Equipment

The operation of heavy equipment presents a hazard to those working in the vicinity of the equipment. Limited visibility of the operator further increases the hazard. Heavy equipment is also prone to rolling and tipping.

E. Hand Operated Tools

There is always a hazard associated with the operation of hand tools whether the tools are mechanized or simple. Improper use of hand operated tools can cause cuts, lacerations, and broken bones. Tools with moving or rotating parts (concrete saws, drills, etc.) are especially hazardous and the operator must be aware of the possibility of flying debris and sparks. Tools with reciprocating engines also present hazards associated with fueling and exhaust.

F. Cold Stress

Cold weather can cause circulatory changes in the body whereby blood flow is shunted from vessels which lie near the surface to those which are deeper within the tissues. The body is programmed to retain heat within the body near vital organs at the expense of the extremities.

Frostbite is the damage to tissue caused by overexposure to low temperature. Usually involving the toes, nose, ears, or fingers, frostbite can cause injury ranging in severity from quite superficial but painful to frank necrosis.

Hypothermia is a condition of subnormal body temperature from prolonged cold and can be extremely dangerous.

Raynaud's disease is a condition caused by the combination of cold and vibration characterized by pale skin resulting from a greatly diminished blood supply which results from spasm of the blood vessel walls. In addition to pale skin, numbness of the affected areas may also occur.

G. General construction Hazards

General construction hazards which may be present include transportation of equipment and personnel around the site, improper placed tools and equipment, and vehicle traffic.

III. Engineering Controls

A. Chemical exposure

The hazard of chemical exposure will be reduced by limiting the amount of handling of the contaminated material and through the use of appropriate Personal Protective Equipment (PPE) as outlined in the PPE section below.

B. Dust

Should dust become a problem, the affected area may be sprayed with a mist of water using a power washer to eliminate the dust. The concrete saw will be equipped with a garden hose adapter for connecting a water source for minimizing the spread of dust particles. The water from the concrete saw will be immediately pecked up suing a vacuum cleaner to prevent the spread of contaminated water. Workers in the immediate area of dust will wear appropriate respiratory protective equipment.

C. Noise

Ear plugs will be provided for all workers in the vicinity of machinery or tools producing excessive noise.

D. Heavy Equipment

All personnel on-site and in the vicinity of heavy equipment will maintain constant eye contact with the equipment operator. All equipment operators will wear seat belts while operating equipment. Backup alarms are required on all heavy equipment. During fueling and servicing of all equipment, the

unit will be turned off and braked and at no time will the operator be allowed to leave the equipment while the engine is running.

E. Hand Operated Tools

Before operating any hand tool, the user must examine the area surrounding the work area for potential hazards and remove or eliminate the hazards before proceeding. This includes removing potentially ignitable materials from those areas where the operation of the tool would create sparks, warning other workers in the area who may be in the path of moving or rotating parts or flying debris, and removing objects which may prohibit the proper use of the tool. Fire extinguishers will be provided when operating equipment which could produce a fire from sparks or from hot exhaust.

F. Cold Stress

Appropriate cold weather clothing (including but not limited to, insulated coveralls and hard hat liners) will be provided to workers to guard against the affects of cold temperature. Warm shelter will be provided and frequent breaks will be given in cold temperature.

G. General Controls

Seatbelts will be worn by all personnel when in vehicles and equipment. Tools and equipment will be picked up and returned to their proper storage place after use.

IV. Personal Protective Equipment (PPE)

Exclusion Zone, Level C:

- Saranex coverall
- Latex inner gloves
- Cotton liner gloves (not necessary when wearing outer leather gloves)
- Nitrile outer gloves
- Leather outer gloves for handling concrete
- Chemical resistant boots
- Full face respirator with Organic Vapor/Dust Combination cartridges
- Hard hat
- Earplugs as necessary (required when operating the concrete saw)
- Rainsuit in addition to the above when operating pressure washer

Support Zone, Level D:

Leather steel toe boots

Safety glasses with sideshields

Hard hat

Cotton or leather work gloves

Cotton coveralls

Earplugs as necessary

V. Personnel and Equipment Decontamination

All personnel and equipment must be decontaminated when leaving the exclusion zone. A specific area will be designated as the Contamination Reduction Zone (CRZ) and all decontamination procedures will take place in this area. The CRZ will be equipped with a plastic drop cloth, boot wash and rinse, scrub brushes, disposal container, and clean PPE. The following steps will be followed for personnel decontamination.

1) Deposit equipment used on-site on the plastic drop cloth.
2) Scrub outer boots, gloves and rain suit with decon solution or detergent water. Rinse off thoroughly.
3) Remove outer gloves and deposit in container.

4) Remove outer tyvek coverall and outer gloves and deposit in container.

5) Facepiece is removed. Avoid touching face with fingers.

6) Chemical resistant boots will be removed and stored within the CRZ.

7) Wash hands and face thoroughly.

All chemical resistant boots will be disposed at the completion of the project.

Small tools and equipment will be decontaminated prior to leaving the CRZ by scrubbing with decon solution or detergent followed by a thorough water rinse. Heavy equipment will be decontaminated by first removing loose and packed material with a putty knife, chisel, or broom. The equipment will then be scrubbed with decon solution or detergent followed by a thorough water rinse.

VI. Air Monitoring

The purpose of air monitoring is to identify and quantify airborne contaminants in order to determine the areas where protection is needed and the level or worker protection needed. Monitoring, as needed, will consist of measuring for three types of hazards: Organic Vapors, Explosive Atmospheres, and Particulates.

Organic Vapors	- Photoionization detector (PID) Photovac TIP II
Explosive Atmosphere	- Gastech GX-82 LEL/Oxygen Meter Gastech 1214
Particulates	- GCA Miniram Aerosol Monitor

Organic vapors will be monitored as necessary during the removal of the concrete. Site levels will be compared to background levels and work will halt and conditions investigated if the PID level is greater than 10 units above background.

Particulates will be monitored during the cutting of the concrete and the loading of the concrete into the transportation vehicles. An action level of 5 mg/m3 will be in place for determining when corrective action will take place (extend Exclusion zone/spray area with a water mist).

It is not expected that any explosive atmospheres will be encountered throughout the project but should the situation arise, work will halt and conditions investigated if the LEL => 20%.

VII. Emergency Procedures and Protocols

Before the beginning of the project, the Site Health and Safety Officer will conduct a meeting to cover emergency planning and procedures. The Site Health and Safety Officer will be responsible for contacting the appropriate emergency facilities and coordinating the emergency efforts.

In the event of an emergency, all personnel are to evacuate the immediate area of danger and meet with the Site Health and Safety Officer at the command post. The Site Health and Safety Officer will then assess the situation and determine the necessary rescue procedure. Rescue operations conducted by USPCI personnel will only proceed if it is determined that the operations will not further endanger the rescue personnel. If professional rescue operations are required the Site Health and Safety Officer will make the necessary contacts. If the emergency occurs within the exclusion zone, all personnel involved in the rescue operations must wear the appropriate level of personal protective equipment and are required to go through appropriate decontamination procedures. During an emergency operation, access to the area will be limited to only

those people involved in the emergency rescue operation.

A. Emergency Equipment On-Site

Emergency Eye Wash Station

Emergency Oxygen

Complete First Aid Kit

Fire Extinguishers

B. Emergency Facilities and Phone Numbers

Grantsville, Utah

Fire Dept.	(801) 882-3636
Police Dept.	(801) 882-5600
Ambulance	(801) 882-5600

Tooele, Utah

Fire Dept.	(801) 882-3636
Police Dept.	(801) 882-5600
Ambulance	(801) 882-5600
Hospital	(801) 882-1697

Salt Lake City

University of Utah Hospital

(801) 581-2666

VIII. Spill Contingencies

Any on-site spill of contaminated material will be promptly removed, and any visible contamination of "clean" soil will also be removed. Soil beneath the spill site will be sampled and analyzed in accordance with 40 CFR Part 761.

For spills occurring in route, the following contacts are provided.

PPM Coordinator	Cary Mans (801) 884-6861
National Response Ctr	1-800-424-8802
EPA Region VIII	1-303-293-7142 (24 hrs.)

IX Safety Training

All personnel on-site shall have completed OSHA mandated 40 hours of Health and Safety training and shall have completed annual 8 hour refresher courses.

In addition, Supervisors annually shall complete 8 hours of Supervisory training.

The On-Site Health & Safety Officer shall have completed a course in instrumentation for site monitoring, if necessary.

Daily safety meetings shall take place in the morning to discuss job assignments and safety concerns of the days activities.

X. Medical Surveillance

All personnel shall participate in a medical monitoring program in accordance with 29 CFR 1910.120(f). The program shall consist of, but not limited to, the following:

Substance Abuse Screening
Complete Blood Count
Urinalysis
Pulmonary Function Testing
Audiometry
Vision Testing
Electrocardiogram
Chest X-ray
Comprehensive Physical Examination
SMAC 24 - Total Cholesterol & High Density Lipoproteins
Complete Health and Exposure History

XI. Acknowledgements

I have read, understood, and will follow the Site Health and Safety Plan.

Name (print)	Signature	Company	Date

XII. PCB Inventory

Below are listed the maximum volume of PCBs in inventory for the purposes of removal for closure. These materials will be present in the areas designated as the tank farm and container storage areas (Warehouse or Drain and Flush Building, on facility map Closure Appendix B).

The equipment and structures in these areas are located in what is considered to be a non-restricted access area because of its proximity to commercial areas. Surfaces below six (6) feet in elevation are considered to be high contact industrial surfaces. Surfaces over six (6) feet in elevation are considered to be low contact industrial surfaces. These surfaces include impervious solid surfaces such as metals, Aluminum siding and fiberglass. Additionally, Non-impervious solid surfaces are present such as wood and concrete.

a) Tank Farm Bulk Treatment

TANK #	CAPACITY	HEIGHT	DIAMETER	SERVICE
1	21,000 gal	25'0"	12'0"	PCB Pretreatment Tank
2	21,000 gal	25'0"	12'0"	PCB Pretreatment Tank
4	10,600 gal	15'0"	11'0"	PCB Bulk Reactor Tank
5	10,600 gal	15'0"	11'0"	PCB Pretreatment Tank
RIG	520 gal	5'6"(long)	4'0"	Mobile Treatment Unit
	76,320 gal			

b) Container Storage

Grayback Mountain has one building with inside bermed storage areas used for PCB container storage. All containers shall meet 40 CFR 761.65 (C) 6. This building is designated as PPM warehouse one. Maximum containers stored in each bermed area is as follows:

Area A - 400 containers maximum
Area B - 379 containers maximum including
Two (2) 3000 gallons tanks.
Area C - for pumping and crushing drums

These areas are used for storage of various PCB material including oil suitable for chemical

treatment, askarel (pure PCB), transformers, capacitors and debris. The historical average ratios of these materials in storage are as follows:

Treatable Oil	28%	or	160 drums
Askarel	14%		100 drums
Transformers (drained)	42%		300 drum(EQ)
Capacitors	14%		100 drums
Debris	2%		10 drums

These ratios will be used in conjunction with the 779 drum maximum in storage to calculate disposal cost of material in the event of closure.

4.3.3.2 Initial Inspection of the Facility

Visual Inspection. The facility owner/operator or (contractor) will perform the initial (visual) inspection of the facility. The initial inspection will locate apparent areas of PCB contamination requiring intensive sampling, including visually contaminated areas, along with areas suspected of contamination due to operating patterns or locations of stored wastes. The inspection will cover the entire site, including tanks, valves, equipment, containment areas, and the site's property boundaries. Potential off-site contamination will also be investigated. A record review and interviews with site personnel can also locate areas of potential contamination. The initial inspection will verify the necessary sampling methods required for the sampling visit. This initial inspection shall be performed with the aid of a video recording device to provide visual records of the visit.

Because the owner/operator will perform the initial visual inspection of the facility, valuable historical insight can be considered when investigating areas which may need remediation. This

methodology will include historical use of buildings, types of exposure to PCB (i.e. liquids, solids contact, high level PCBs, low level PCBs), protection of surfaces such as epoxy floor coatings, traffic through buildings and throughout the plant, and containment and/or migration protection.

All PCB activities take place within bermed concrete containment areas. The concrete surfaces may have come in contact with PCBs over the history of the use of the buildings and tank farm. All containment areas will be tested for contamination using grid sampling and random sampling where random sampling is deemed desirable.

Areas of suspected dust deposition, such as window sills, roof trusses and ceilings, will be wipe samples. Soil samples will be taken from surrounding surfaces outside buildings #4 and #7 as well as outside the Tank Farm area. Random wipes will be used for solid surfaces on equipment where contamination is either likely or suspected.

Liquid transfer and storage equipment such as pipes, hose and tanks will be assumed to be contaminated and liquids shall be sampled from each bulk treatment/storage tank to determine proper disposal

method. Equipment will be assessed as to the practicality of decontamination versus disposal in a chemical waste landfill.

Records of PCB concentration and type of PCB waste are recorded with each unit's unique identification number in the case of drums, transformers, capacitors, and associated materials. These records shall be compared against the actual physical inventory of PCB material in the container storage and Tank Farm areas. In the event of obvious discrepancies, the material shall be sampled to determine the proper method of disposal.

In addition to the assessment of Possible PCB contamination, each structure shall be assessed as to its structural condition and integrity. This assessment shall include, as a minimum, The warehouse and the Tank Farm. The assessment may consist of any one or several of the following methods:

1) destructive testing methods.
2) non-destructive testing (i.e. ultra sound, corrosion measurements).
3) Visual evaluation.

In the event that qualified personnel (professional engineer) determine any part of the facility may be

unsound, a recommendation/report shall be made of corrective action prior to commencement of any remedial action or actions which may threaten the safety of the inspection team. A written summary of the structural evaluation as well as corrective action (if necessary) shall be prepared and submitted prior to commencement of any remedial action.

4.3.3.3 Sampling Plan

The facility PCB activities are limited to warehouse #1, and the Tank Farm. Warehouse #1 is used for the handling and storage of PCB items including but not limited to PCB and PCB contaminated transformers, PCB debris, PCB capacitors, PCB and PCB contaminated liquids, as well as a laboratory used for PCB analysis. The levels of PCBs handled range from 0 to 1,000,000 ppm PCB. All PCB storage and handling takes place within a concrete containment berm. The Tank Farm is employed in the chemical detoxification of PCB and PCB contaminated oils below 10,712 ppm. This area is also located within a concrete containment area with a roof over the berm, but no walls. Several bulk tanks are located within this area as well as the Mobile Treatment Unit.

Each of these areas, as well as surrounding soils, will be sampled to determine the presence of PCB contamination. The surfaces and items sampled will include, but not be limited to concrete containment surfaces, structural steel and associated roof and joist members, walls, window ledges, surrounding soils, and possible runoff areas. Appropriate sampling methods for the items and surfaces to be tested are illustrated in Closure Appendix L, EPA -

VERIFICATION OF PCB SPILL CLEANUP BY SAMPLING AND ANALYSIS, pages 40 - 42.

Systematic Grid Sampling will be used to determine areas of possible PCB contamination in buildings #4 & #7 and the Tank Farm concrete Floor surfaces. Random and Judgement sampling will be employed on the wall, ceiling and soil areas utilizing data gathered during the initial inspection which will identify areas of likely or suspected PCB contamination.

Grid and sampling will be established using the methodology described in the Closure Appendix L, EPA - VERIFICATION OF PCB SPILL CLEANUP BY SAMPLING AND ANALYSIS, pages 9 - 40.

Grid size will depend on total area to be sampled but will in no case be less than 10 feet from point to point unless there is known contamination present. In every case a minimum of 37 point grid will be used for areas over 4000 sq ft unless it is known contamination is present. (See Table 4 page 17, in Closure Appendix L, for Recommended Sample Size.

Some areas (such as container storage area) are known to have surface contamination due to historical use. In such cases the area can be noted as contaminated, and sampled after decontamination efforts.

4.3.3.3.1 Quality Assurance and Quality Control

See Closure Appendix M for QA/QC.

4.3.3.3.2 Sampling Handling Requirements

See Closure Appendix N, FIELD MANUAL FOR GRID SAMPLING OF PCB SPILL SITES TO VERIFY CLEANUP, Pages 28 - 35.

4.3.4 Decontamination Procedures

The methods chosen and equipment needed for closure have been verified as effective through field testing and cost/suitability analysis. The Closure Plan has been formulated to allow for different approaches to surface and material clean-up. Less costly approaches such as surfactant wash/rinse will be attempted before total removal of contaminated surfaces/material such as concrete. Sampling will illustrate that methods attempted were successful or if more removal/clearing is necessary. The decontamination procedures and handling of wastes generated are described in the following, by areas.

A. TANK FARM

1. General Discussion

The treatment area is located inside of the USPCI Grassy Mountain facility located 3 miles east and 7 miles north of exit 41 off of I-80 in Clive Utah. The entire facility is monitored by 24 hour security and all persons entering and leaving the facility must sign at the guard post.

The PPM, INC. portion of this facility consists of two areas. These areas are the warehouse and the PCB destruction area.

The PCB destruction area is divided into three sections labeled areas 1, 2, and 3 on the attached drawing. This area is only used for the decontamination of PCB contaminated oils and storing of caustic water in drums for shipment to the on-site stabilization and landfill area. Only PPM authorized personnel are allowed on the premises.

Area I consists of a 48'9" x 64'5" x 1'2" bermed area containing three tank pads, one sump, and one entry ramp. Area II consists of a 20' x 64'5" x 1'4" bermed area containing two sumps and one entry ramp. Area III consists of a 27' x 60'5" x 3'7" bermed area containing a

sump, three (3) tank pads, and a weir cut into the wall at the 3'4" height emptying into Area II.

The floors and walls are inspected on a regular basis for signs of cracks or other deterioration. If such signs appear, then all defects are machined and cleaned out so that an oil and water resistant concrete patch and sealant material can be applied.

All tanks have secondary containment and are not subject to the contingent closure plan requirements of 40 CFR 264.197(c).

2. Tank Inventory Removal

a) PCB Inventory

TANK #	CAPACITY	HEIGHT	DIAMETER	SERVICE
1	21,000 gal	25'0"	12'0"	PCB Pretreatment Tank
2	21,000 gal	25'0"	12'0"	PCB Pretreatment Tank
4	10,600 gal	15'0"	11'0"	PCB Bulk Reactor Tank
5	10,600 gal	15'0"	11'0"	PCB Pretreatment Tank
	63,200 gal			

b) Containment Volume

* - Area I berm = 3,078.4 cubic feet

  3,078.4 cubic feet x 7.48 gal/cubic feet = 23,025 gal

  - Area II berm = 1,680.4 cubic feet

  1,680.4 cubic feet x 7.48 gal/cubic feet = 12,570 gal

  - Area III berm = 4,324.7 cubic feet

  4,324.7 cubic feet x 7.48 gal/cubic feet = 32,348 gal

PCB oil capacity in Tank Farm tanks = 63,200 gal

Decontaminated oil storage in
Tank Farm tank #6 & 7 = 31,600 gal

Total tankage in treatment area
berm **94,800 gal**

* Volume includes storage of 40 solvent and caustic drums.

c) Waste Removal

In the event of closure, each tank will be drained dry by using an on-site pump to remove oil through the bottom valve of each of the tanks. Oil will be pumped directly into a bulk oil tanker of at least 5500 gallons capacity using flexible hoses. Pumping rate will be a minimum of 60 GPM. Only oil from PCB oil treatment tanks will be designated for disposal. Clean oils contain non-detectable levels of PCB and, thus, may be sold.

d) Disposal

The PCB oil in the Tank Farm treatment area has been designated as suitable for chemical detoxification before being pumped into the tanks. Thus, this oil can be sent to an outside facility (i.e. Aptus, Coffeyville, Kansas) for detoxification using similar treatment technology as that employed at PPM. This oil can be received at such a facility in bulk tankers.

3. Tank Decontamination

Tanks having contained oil with greater than 50 ppm PCB will be designated for disposal at the on-site PCB permitted chemical landfill.

It will take approximately six (6) hours to load the four tanks on to flatbeds (by crane) for transport to on-site chemical landfill.Protective clothing should include the following:

Hard Hat
Face Shield
Saranex Suit
Nitrile Gloves with Latex Inner Liners
Rubber Steel Toe Boots
Saranex Booties
Respirator (half-face) with organic vapor cartridge

4. Tank Removal

Decontaminated tanks will be removed using rigging and a hydraulic boom crane. Tanks will be loaded onto lowboy trailers and transported to the landfill.

5. Tank Containment Area Decontamination

Tank Farm containment areas consist of the following sections:

Area I	48'-9" x 64'-5"	= 3,140 sq ft
Area II	20'-0" x 64'-5"	= 1,288 sq ft
Area III	27'-0" x 60'-5"	= 1,631 sq ft
Tanker Ramp	30'-0" x 15'-0"	= 450 sq ft
		6,509 sq ft

At the time of closure of the Tank Farm, the containment surfaces would first be thoroughly cleaned using a high pressure, hot water cleaner and a detergent solution. This cleaning solution will be drummed into DOT 17 E drums and sent either to an TSCA/RCRA permitted treatment facility or to a permitted incinerator.

A concrete surface area contamination test will be performed using destructive core samples and a grid system for analysis based on ten (10) foot grids. Any visually discolored areas will be included in the tests. If these tests show less than 10 ppm PCB, then no further action will be taken.

If these tests show any contaminated areas, these areas will be re-cleaned with detergent rinsed, then repeat the cycle, then retest. If the test results show greater than 10 ppm PCB, then a shot blasting machine will be employed to remove up to the top One (1) inch of material from the contaminated area(s) of the berm as defined by the surface area contamination tests. The debris generated will be placed into DOT 17C drums and sent to a permitted chemical landfill for disposal. The surface area decontamination tests will be repeated to show less than 10 ppm PCB.

To repeat, all bermed areas have had an oil/chemical resistant coating applied to the surface to prevent permeation of liquids into the surface. However, worst case will assume the floor must be shot-blasted to a depth of 1" and debris collected and disposed of in an EPA approved facility.

Structural steel which may have had incidental contact with PCBs will be solvent washed and wipe sampled to show PCB contamination below 10 ug/100 sq cm. Three (3) drums debris will be generated in this procedure.

Safety Equipment Shall Include:

- Hard Hat
- Safety Goggles
- Saranex Suit (Full coverage)
- Nitrile Gloves with Latex Liners
- Steel Toe Nitrile Boots
- Half-face Respirator with Dust Fume Mist cartridges

During the floor cleaning and rinsing procedure, rinsate will be generated at the rate of one (1) 55 gallon drums per 4000 sq ft of floor surface on each rinse. The total rinsate generated for the triple rinsing of 6509 sq ft would be five (5) drums.

Drums of rinsate will be loaded onto a flatbed utilizing the on-site forklift and taken to a licensed PCB incinerator facility (i.e. Ensco) for destruction.

B. CONTAINER STORAGE AREAS

1. General

Grayback Mountain has one building with inside bermed storage areas used for PCB container storage. All containers shall meet 40 CFR 761.65 (C) 6. This building is designated as PPM warehouse one. Maximum containers stored in each bermed area is as follows:

Area A - 400 containers maximum
Area B - 379 containers equivalent maximum including Two (2) 3000 gallon tanks.
Area C - for pumping and crushing drums

These areas are used for storage of various PCB material including oil suitable for chemical treatment, askarel (pure PCB), transformers, capacitors and debris. The historical average ratios of these materials in storage are as follows:

Treatable Oil	28%	or	160 drums
Askarel	14%		100 drums
Transformers (drained)	42%		300 drum(EQ)
Capacitors	14%		100 drums
Debris	2%		10 drums

These ratios will be used in conjunction with the 779 drum equivalent maximum in storage to calculate disposal cost of material in the event of closure.

2. Container Removal.

The on-site forklifts will be used to remove the waste containers. All wastes will be sent to EPA approved facilities with appropriate disposal technology and capability. Disposition of each category is as follows:

Treatable Oil	Chemical Treatment
Askarel, untreatable oil	Incineration
Transformers (drained)	Landfill
Capacitors	Incineration
Debris	Landfill

Liquids will be pumped from drums into a vacuum tank truck and transported to an appropriate facility. Approximate loading time per tanker is 5 hours. A tanker will hold approximately 80 drums of liquid.

Solids such as capacitors, debris drums and transformers will be loaded onto flatbed trucks and transported to an appropriate facility. Approximate

loading time is 4 hours to load 70 drums per truck. Drums are assumed to weigh approximately 500 lbs. A drums. 1000 lb. transformer would be considered as two (2)

3. Container Storage Area Decontamination

After all containers of waste have been removed from bermed areas and sent out for disposal, the areas will be decontaminated. At the time of closure of any of our bermed areas, the containment area floor surfaces would first be thoroughly cleaned using a high pressure, hot water cleaner and a detergent solution. This cleaning solution would be drummed into DOT 17 E drums and sent either to an TSCA/RCRA permitted treatment facility or to a permitted incinerator.

A surface area contamination test would be performed using destructive core sampling and a grid system for analysis based on ten (10) foot grids. Any visually discolored areas would be included in the tests. If these tests show less than 10 ppm PCB, then no further action would be taken.

If these tests show any contaminated areas, these areas will be re-cleaned with detergent and retested. If the test results show greater than 10 ppm PCB, then a grinding machine would be employed to remove the top 1/4 inch of material from the contaminated area(s) of the berm as defined by the surface area contamination tests. These grindings would be placed into DOT 17C drums and sent to a permitted chemical landfill for disposal. The surface area decontamination tests would be repeated. If the tests showed results of less than 10 ppm PCB, no further action would be taken. If test results of greater than 10 ppm PCB are obtained, then the grinding and testing procedures would be repeated until results of less than 10 ppm were obtained or the top one inch of material was removed. If results of less than 10 ppm have not been obtained by this depth, then the contaminated area will be drilled and jack hammered out and drummed for disposal in a chemical landfill. Soil exposed as a result of concrete removal will be tested and must show less than 10 ppm PCB contamination prior to slab replacement with new concrete. The resulting hole will be repaired with new concrete.

Structural steel and wall surfaces which may have had incidental contact with PCBs will be steam cleaned and/or solvent washed. These surfaces will be wipe

tested to show PCB contamination below 10 ug/100 sq cm. Fifty (50) random wipe samples will be taken from these surfaces to assure decontamination. Ten (10) drums of rinsate and ten (10) drums of debris will be generated from this process.

All bermed areas have had an oil/chemical resistant coating applied to the floor surface to prevent surface permeation of liquids in contact with the floor. However, worst case will assume the floor must be jack-hammered and removed for disposal in an EPA approved facility. Soils exposed as a result of concrete removal will be tested and must show less than 10 ppm PCB contamination prior to slab replacement with new concrete. Costs will reflect this scenario.

Safety Equipment shall include:

- Hard Hat

- Safety Goggles

- Saranex Suit (full coverage)

- Nitrile gloves with latex liners

- Steel toe nitrile boots

- Half-face respirator with gas dust mist cartridge

Rinsate will be generated at the rate of one (1) 55 gallon drum per 4000 sq ft of floor area on each rinse. The total rinse generated for the triple rinsing of the PPM warehouse are as follows:

	Area	Drums Rinsate
Area A	1760 sq ft.	2 drums
Area B	1760 sq ft.	2 drums
Area C	1941 sq ft.	2 drums
Truck Areas	792 sq ft.	1 drums
TOTAL	6293 sq ft.	7 drums

The two (2) tanks inside the drain and flush will require 600 gallons of flush that will need to be incinerated. This rinse meets the requirements of 10 percent of the volume of the two tanks. This operation will be performed in the same manner as those in the tank farm.

C. AUXILIARY EQUIPMENT

Auxiliary equipment will be handled in accordance with 40 CFR 761 regulations. All movable equipment will be evaluated as to its intrinsic value versus cost of decontamination. If the decontamination cost of the equipment is estimated to exceed the item's intrinsic value, that item will be disposed of as a PCB article. If the equipment is of sufficient value to warrant decontamination, it will be wiped down with kerosene and tested by a surface wipe test for surface contamination. If test results show less than 10 ug PCB/100 sq cm, the equipment will be disposed of or sold in an appropriate manner. If after three surface washes the equipment still shows contamination greater than 10 ug PCB/100 sq cm PCB then the equipment will be disposed of as a PCB article.

Movable process equipment, excluding the processing unit, will be flushed three times with 10% of the capacity of the unit using virgin kerosene. Kerosene from the last flush shall be tested using gas chromatography. If the flush has greater than 10 ppm PCBs the unit will be disposed of in an approved chemical waste landfill. Rinsate will be drummed and disposed of at an approved chemical destruction facility. It is estimated that 25 wipe tests and 15

oil samples will be analyzed for equipment decontamination.

Spill pans and other items used to collect PCB liquids are cleaned in accordance with 40 CFR 761.43

Any auxiliary equipment not suitable for decontamination will be landfilled in an approved chemical waste landfill. It is anticipated that these materials will include items such as pipe, hose fittings, buckets, drip pans, tools and other material used in PPM operations.

It is anticipated that approximately 10 drums of flush will be generated by the decontamination of equipment. The equivalent of 50 drums of equipment will be designated for landfill. A list of typical auxiliary equipment is provided along with their anticipated treatment. Equipment to be landfilled will be dismantled as much as practical and placed in a gondola for bulk shipment to an approved chemical waste landfill. This material will constitute less than 15 cubic yards and will take only one gondola container.

It is anticipated that auxiliary equipment management will require 80 man hours using two technicians for 1 week.

AUXILIARY EQUIPMENT

DESCRIPTION	TREATMENT
Forklifts	Decontaminate
Barrel Grabbers	Decontaminate
Slings	Landfill
Portable Scales	Decontaminate
Hand Trucks	Decontaminate
Pallet Grabbers	Decontaminate
Pallet Trucks	Landfill
Tools	Landfill
Hoses	Landfill
Pumps	Landfill
Storage Shed (Portable)	Landfill
Bulk Solids Chute	Landfill
Fittings	Landfill
Pipe	Landfill
Buckets, Drip Pans	Landfill
Spill Pans	Landfill
Brooms, Shovels	Landfill
Vacuums	Landfill
Drum Crusher	Decontaminate

4.3.5 Post Cleanup Verification Procedures

Sample location selection criteria, sampling methods (e.g. wipe tests, soil/concrete cores, etc.) Analytical methods, QA/QC, sampling equipment decontamination and chain of custody for Post Cleanup Verification shall be consistent with that of the Sampling Plan in Section 4.3.3.3.

Additionally all PCB contaminates articles, debris, equipment and associates material shall be handled in accordance with 40 CFR 761 regulations. Where practical, sampling equipment will be double wash/rinsed with iso octane. All contaminated solvents, rags, debris and associated material will be containerized and disposed of in accordance with 40 CFR 761 regulations. Volumes and disposal methods of material generated in the cleanup are provided in section 4.3.4.

Disposal Facilities for PCB materials generated during clean up are anticipated to include the following:

FACILITY LOCATION	MATERIAL	DISPOSAL METHOD
APTUS Knowles, Utah	Liquids incinerables	Treatment incineration
U.S.P.C.I Clive, Utah	Solids	Landfill

4.4 Other Closure Activities

4.4.1 Ground-Water Monitoring

Because the disposal activities at this site are limited to PCB detoxification and associated activities and do not entail surface impoundment, and fill, or any other surface applications of waste, it is not necessary to provide for ground water monitoring or run-on and run off controls. All areas of activity will be decontaminated to the levels required for non-restricted access areas. The facility will then be released for use for other commercial/industrial activities. Thus security devices will not be necessary to prevent access to the site.

4.4.2 Methods to treat, remove, or dispose of run-on and run-off due to decontamination water, rain, or melting snow.

See 4.4.1, above.

4.4.3 Security devices.

See 4.1.3-K. Location and Nature of Security System.

4.5 Schedule for Closure

Considering the remaining capacity of the facility, projected shut down of related industrial plants, expiration of customer activity who generate PCB waste for disposal and the expected retirement date for the facility. It is anticipated that the expected year of closure for this facility is 1998. However, because of the nature of the PCB industry and PCB waste regulations, this date may be extended to provide the disposal capacity for PCBs which may then still be required.

After the date of initiation of Closure Activities has been determined, the closure schedule shall be followed.

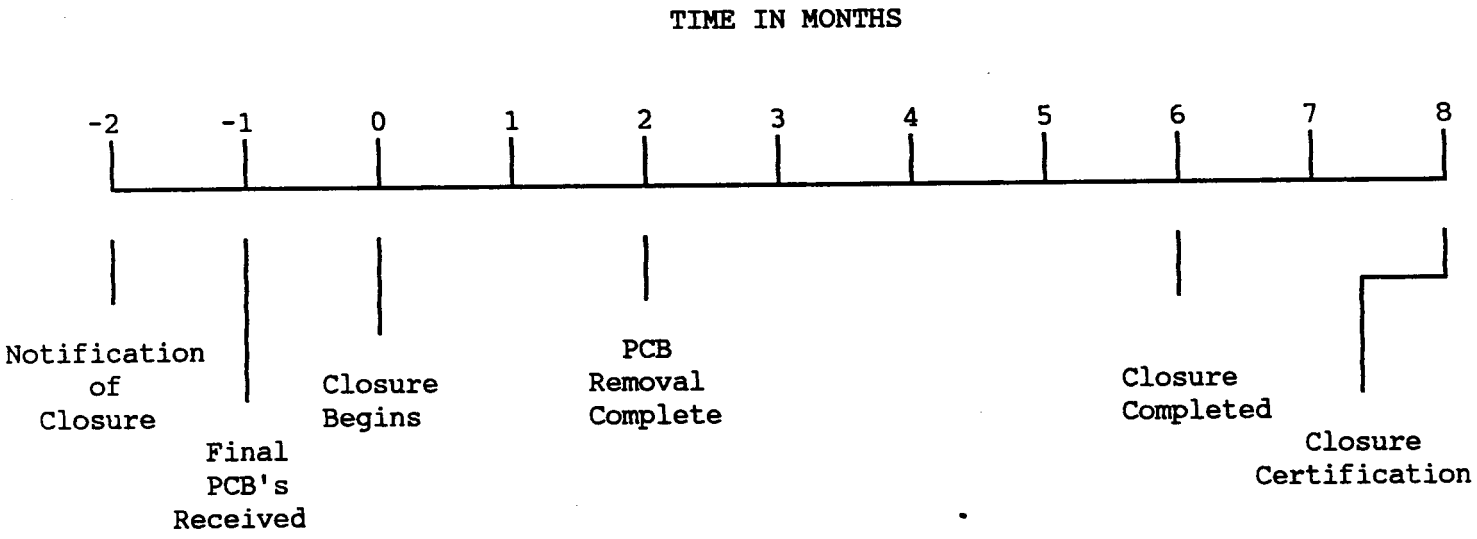
CLOSURE SCHEDULE

The Regional Administrator shall be notified at least 60 days prior to the beginning of closure activities. This notification shall include a work plan for complete closure of the facility. The schedule below indicates the activities and actions to take place after closure is initiated. The day closure activities are initiated is assumed to be day 1.

ACTIVITY	DAY
A. Tank Farm	
1. Inventory Removal	1-3
2. Tank Decontamination	3-5
3. Sampling and Analysis	4-6
4. Tank Removal	6-8
5. Area Decontamination	8-15
B. Container Storage Areas	
1. Inventory Removal	15-45
2. Area Decontamination	45-70
3. Sampling	70-80
C. Auxiliary Equipment	
1. Decontamination and/or disposal	15-45
D. Closure Certification, Monitoring	
Follow-up decontamination (if necessary)	80-100

Exhibit 4-3

TIMELINE OF PCB STORAGE FACILITY CLOSURE REQUIREMENTS



4.6 Modification to Closure Plans

PPM Inc will amend closure plans and then submit them to the agency for approval if:

1) A change in operating plans or facility design affects the closure plan, for example:

   - Increases in facility size and/or capacity;
   - Increases in the estimate of maximum inventory;
   - changes in regulatory requirements that affect closure activities;
   - Changes in surrounding land use (e.g. drinking water wells are installed in close proximity to the facility or sewer extensions increase the possibility of contaminating sewage treatment plant operations in the event of a spill);

2) An unexpected event occurs while conducting final closure activities that affects the closure plan;

3) There is a change in the expected year of closure; or

4) Financial status changes which may result in an inability to adequately pay for closure.