PCB Closure Plan
04-03-2020

This section is submitted in accordance with the requirements of CFR 40 Part 761.65(e). This plan identifies all steps necessary to completely close Drug & Laboratory Disposal's (DLD) polychlorinated Biphenyl (PCB) storage facilities.

DLD will maintain an on-site copy of the approved closure plan and all revisions of the plan until certification of closure completeness has been submitted and accepted by the Environmental Protection Agency's (EPA) Regional Administrator or Director in Region V. DLD will notify the Regional Administrator or Director at least 60 days prior to the date on which final closure of its PCB storage facility is expected to begin. Within 60 days of completion of closure, DLD will submit, by registered mail, to the EPA Administrator or Director certification signed by both DLD and an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

1.0 FACILITY DESCRIPTION

Drug & Laboratory Disposal, Inc., (DLD) is a RCRA Part B licensed treatment, storage and disposal facility specializing in hazardous and non-hazardous waste, medical waste, household hazardous waste, and controlled substance storage and disposal. DLD also stores PC materials, prior to off-site shipment for disposal. DLD 's street and mailing address is:

Drug & Laboratory Disposal, Inc.
331 Broad Street
Plainwell, MI 49080

Appendix 1 is a location map and Appendix 2 is a regional topographic map of the area with a scale of 1:24:00 and 7.5 foot contour intervals. Appendix 3 is a site map of the facility complex showing boundaries and major buildings,, containing both the permitted storage units and the PCB storage areas.

The DLD facility covers approximately 35 acres, with approximately 3.5 acres fenced active area, located within Plainwell City limits. The property is owned by Folley, Inc. DLD is located in the SE ¼ of the NW ¼ of Section 29, T1N, R11W, Gunplain Township, Allegan County, Michigan. Longitudinal and longitudinal coordinates for DLD are 42 degrees, 26 minutes, 41 seconds and 85 degrees, 38 minutes, 05 seconds respectively.

DLD was incorporated in 1977 to serve the hazardous waste needs of laboratories in industry, medicine and academia. Although service to laboratories is still DLD's primary niche, DLD accommodates small, large and very small hazardous waste generators. DLD has become a regional facility expanding its services into the eastern states and the Midwest. All wastes that are treated and/or temporarily stored within the DLD facility are shipped off-site to licensed facilities for disposal.,

DLD's facility active area consists of six covered processing areas: DLS-1, DLS-2, DLS-3, DLS-4, DLS-5 and the hazardous waste loading bay (HWLB). PCB wastes are processed/stored in DLS-1, DLS-3, and DLS-5. The remaining part of the facility consists of an office area, decontamination room, warehouse, non-hazardous loading dock, and maintenance garage.

1.1 TOPOGRAPHIC MAP

A topographic map, showing contours a two-foot intervals for 1000 feed around DLD, is provided in Appendix .1. Because the terrain around DLD is so flat, a five- foot interval was not used. The pattern of surface runoff is slow, with rapid on-site infiltration on the unpaved natural vegetation areas. Appendix 2 is a regional topographic map that includes the DLD facility and surrounding areas. Other information provided in association with the topographic map is summarized in the following sections,

1.2 PCB STORAGE FACILITIES

The PCB storage facilities are located within DLD's licensed hazardous waste storage areas known as DLS-1, DLS-3 and DLS-5.

1.3 PCB TREATMENT AND DISPOSAL FACILITIES

PCBs are neither treated nor disposed of on this site. DLD primarily serves laboratories, hospitals, schools and other generators who seldom generate large volumes of PCB waste. DLD only accepts those PCB wastes which are within its storage and handling abilities. DLD commingles small volumes of solid (soils) and liquid PCB wastes into a separate homogeneous waste stream capable of being incinerated at off-site incinerators authorized by TSCA for the incineration of PCBs.

1.4 HAZARDOUS WASTE MANAGEMENT UNITS

DLD is a primarily a licensed treatment and storage facility of hazardous waste. DLD is currently licensed to handle 30,000 gallons of bulk waste storage contained in six 5,000 gallon tanks. In addition, DLD has a licensed capacity for 34,120 gallons of containerized storage over six different processing areas. The processing areas are designated DLS-1, DLS-2, DLS-3, DLS-4, DLS-5 and the hazardous waste loading bay (HWLB). PCB storage is restricted to DLS-1, DLS-2, and DLS-5. Appendix 4 contains drawings of the five processing areas.

1.5 OTHER BUILDINGS

The offices and laboratory for the DLD complex are located in the southern end of the complex. The northern end of DLD houses the enclosed vehicle maintenance garage. To the west of the DLD complex, attached to DLS-5, is a warehouse building, which is an unlicensed area for non-hazardous packaging materials, empty drums, etc. and a non-hazardous loading dock/storage area. Under the roof of DLS-5 termed the five-stall garage, is a self-contained building used to store equipment.

1.6 100-YEAR FLOODPLAIN

The DLD facility is not located within the boundaries of a 100-year flood plain. This determination is made based on the information supplied by the Flood Insurance Rate Map 02 for the City of Plainwell, Michigan, Allegan County Community No. 260008 as issued by the Federal Emergency Management Agency. Effective date for the map is October 18, 1985. Please see Appendix 5.

1.7 ADJACENT SURFACE WATERS

There are no surface waters or wetlands in the immediate of the DLD facility. The nearest surface water is the Kalamazoo River, approximately 1,400 feet southwest of the facility,

1.8 SURROUNDING LAND USES

The land area occupied by DLD is zoned M-1, Restricted Manufacturing, located within the City of Plainwell, MI. The property directly to the north of DLD is outside the city limits and contains a crop farm. On the east side of DLD is a railroad track and beyond that lies the Plainwell Industrial Park. To the south of DLD is a landscaping business and to the West is property owned by Consumers Power Company and contains both a natural gas line and a electrical transmission line. Beyond that is a city park, railroad tracks and a residential area.

1.9 UNDERGROUND STORAGE TANKS

There are no underground storage tanks at the DLD facility.

1.10 TRAFFIC INFORMATION

The vehicular movements associated with DLD activities have little impact of the City of Plainwell. DLD is located in an industrial area which it shares with one other business. Total traffic count, including employees, deliveries, and incoming and outgoing waste shipments, would total approximately 120 movements within a 24-hour period. DLD has limited operations on weekends.

The main access road to DLD is Broad Street, which is a paved, curbed and guttered roadway, ending in a cul-de-sac in front of DLD. The other access road, Oak Street, is a local non-rated street. All loading and unloading of waste and waste handling supplies is done at DLD's two secure, contained loading docks. Both are accessed from the west by way of controlled gates located on an unpaved access driveway on DLD property, other supplies are delivered to the office area off Broad Street.

All guest parking and the majority of employee parking is the DLD parking lot west of the office area, outside te secured loading dock and hazardous waste handling area. Employees also may park within the secured area, east of the facility building.

1.11 SECURITY SYSTEMS

Physical access to the active portion of the facility is controlled by a six-foot high chain-link fence topped by strands of barbed wire. The fence contains seven gates which are secured wby padlocks (two gates) combination locks (three gates) or electronically activated, motorized openers. Gates remain locked at all times except when actively being used by personnel or vehicles.

An electronic alarm system with motion sensors and contact closures secures various areas of the facility when they are not occupied. This system is connected to a central station alarm monitoring service that is staffed 24-hours a day, every day. Key areas of the facility are covered by a video surveillance system.

1.12 ENVIRONMENTAL CONDITIONS AT THE SITE

DLD's PCB storage areas are located within the licensed area. No PCB items or PCB items are stored outside the building. All incoming and outgoing PCBs are located under a roof. The loading/unloading area is designed with spill-control features and equipment to contain and remove any spills or leaks and has a containment area of 5,000 gallons each.

DLD is connected to Plainwell's sewage system, and potable water comes from Plainwell city wells. Lavatory facilities contain the only drains DLD has to the sewage systems. There are no drains within the DLD waste management areas; also no storm-water catch basins in this industrial park area are connected to the city storm-water system .leading to the sewage system. Man-holes leading to dry wells drain storm water from the employee parking areas and from the driveway leading to the loading/unloading areas. The land surrounding the DLD facility is very flat, with the underlying soils composed of Oakville fine sand and Chelsea fine loamy sand. This soil type accounts for the raid infiltration of storm wasters. The depth to groundwater is between 10 and 15 feet.

1.13 DESIGN AND CONSTRUCTION

The DLD facility was carefully designed and engineered for full protection of hazardous waste and PCB material. The PCB storage areas are housed entirely within the roof and walls of a steel-framed, steel sided building with reinforced sealed concrete floors. A 10 foot concrete apron extends outward in an easterly direction to protect against soil contamination. All waste handling areas are curbed to prevent run-off to the environment and to form secondary containment for each unit

The PCB storage areas are designed to contain small electrical, transformers, capacitors and metal drums and totes which may contain a homogeneous commingling of contaminated solids, such as soils and free PCB liquids to produce a non-flowable mixture. The capacitors may be packed in specially identified containers. PCBs are stored in a PCB storage area with each container received at the site dated, properly labeled, and warehoused in a manner to permit easy inspection. DLD tracks PCB inventory both manually and with an evolving electronic system.

Occasionally, Tank NO. 3 IN DLS-3, which is a 304-type, 5000-gallon, stainless-steel bulk-storage tank is that is used to store liquid RCRA hazardous wastes that have been inadvertently contaminated with PCB's by generators. In this instance, the containment ratio for the lower DLS-3 area is 9.4. As mentioned in section 1 (facility description) there is a second bulk storage area (DLS-4) immediately adjacent to DLS-3. DLS-4 contains three 5,000-gallon bulk storage tanks. This area is isolated from DLS-3 by a 5.5-foot-high, 8inch thick reinforced concrete wall. Total containment volume for DLS-4 is 15,100 gallons. Dls-4 is not used to store PCB materials.

With respect to outdoor storage of PCB wastes, DLD does not store PCB materials outside the containment areas of the secured storage building.

Immediately adjacent to the DLS-4 management area is the loading/ unloading area. The DLD loading/unloading area has been designed and constructed to minimize hazards to human health and the environment. A poured 5-foot, 6-inch high, 8-inch thick reinforced concrete and partially reinforced block wall that isolates the loading / unloading area from the DLS-4 management area The wall / floor joint of the poured concrete wall between the DLS -4 management area and the loading/ unloading area is protected by a neoprene "dumbbell " water stop. This is typical of all the wall / floor joints throughout the facility. The inside perimeter of the floor/wall joints in the loading/unloading area is sealed with a combination silicone caulk and non-shrink grout. The floors and poured concrete walls in this loading / unloading area is A concrete ramp leading into the loading /unloading area prevents storm water from flowing into this area. The floor of the loading / unloading area is constructed ox inches of concrete, reinforced with 6 x 6 (4in by 4in) welded wire mats, this construction will prevent the breaking of the containment surface under heavy truck load this area has a containment volume of 5000 gallons. The construction of the dock area provides a level loading/unloading area, which is particularly important, since all PCB wastes received at DLD are in less than bulk quantities, and DLD personnel must unload trucks with barrel carts. A 6-inch raised ramp provides access from the dock area to the DLS management areas. Sealed six-inch curbs and reinforced block walls provide adequate containment as waste materials are moved between the loading/unloading area and the DLS management area.

1.14.1 SHIPPING/RECEIVING

DLD has two shipping/receiving docks. One is dedicated to non-hazardous materials and one (HWLB) is for both hazardous and non-hazardous materials. Both are similarly constructed.

1.14.2 SECURITY

The PCB storage areas are located within the DLS-1, DLS-3 AND DLS-5 are waste management areas. As mentioned above, the entire facility is surrounded by a six-foot-high, barbed wire chain-link fence and secured gates. In addition, the area is monitored by a fire intrusion alarm-system. All PCB storage areas are posted with the yellow-and-black "PCB Caution" placards. Accesses to the areas are posted with "Authorized Personnel Only" signs. All visitors and/or inspectors are provided with disposable boots, eye protection, and a hard hat when touring the storage facility. The foot protection is removed in the decontamination room to prevent the movement of potential chemical contaminants into the outer clean environment. These tours are provided during worker break periods to avoid chemical exposures. In order to verify track out of PCB waste is not occurring, quarterly wipe samples will be initiated. The PCB storage area is accessible only to foot traffic and therefore wipe samples will be taken from the floor at the four exits. The exits are located at the north end of the storage area next entering the HWLB, the door into the decon room, the in front of the door to DLS-1 and the door from DLS-5 into the warehouse. The sampling will be recorded on a Chain of Custody and the results entered into a PCB report .form

1.15 SAFETY

Sorbent pads and floor-dry are readily available in the PCB Storage areas.. All employees enter the areas through a decontamination room. Employees working in the DLD processing and storage areaare required to wear, at a minimum: a hard hat, safety glasses/goggles, face shield, coveralls, respirator, steel-toed shoes, and gloves.

Eighteen portable ABC fire extinguishers are available throughout the hazardous-waste-management areas. These fire extinguishers are monitored monthly for readiness via "quick check." Multiple eye-wash station/drench-shower combination are available. A drench shower is also located in DLS-1. First-aid kits are located in DLS-1 and DLS-2.

1.16 HOUSEKEEPING AND OPERATING PRACTICE

The DLS-1, DLS-3 and DLS-5 areas, including their respective PCB storage areas, are well lighted, and kept in a very clean condition at all times. Aisles and passageways necessary for unobstructed movement of personnel and equipment are always maintained. The containers, brought to this facility by properly licensed vehicles, are labeled and manifested prior to pick-up by DLD, so that they need only be recorded and weighed upon arrival at the site. The commingling of PCB (solid and liquid) wastes is performed on-site to produce a homogeneous non-flowable mixture that is shipped off-site for incineration. Any clothing and tools that come into direct contact with the PCB's during the handling process and that

cannot be decontaminated are packed in Department of Transportation (DOT) approved steel containers, sealed, appropriately labeled and shipped off-site for disposal. All PCB articles and PCB containers in storage are checked for leaks at least once every 30 days. Any leaking PCB articles or PCB containers and their contents are transferred immediately to properly marked, non-leaking containers. Any spilled materials are transferred immediately to properly marked, non-leaking containers. Any spilled materials are immediately cleaned up, using sorbents or other adequate means, and the PCB contaminated materials and residues are packed up for incineration in accordance with 761.60 (a) (4). Chemists work daily in DLS-3 preparing hazardous waste and the occasional PCB waste materials for shipment. A standard daily work practice is the examination of the container storage areas for leaking containers.

2.0 DISPOSAL OF PCB INVENTORY

as previously indicated, DLDs primary service is the management of hazardous waste generated from industrial, medical, and academic laboratories. DLD also provides service to the conditionally exempt and small quantity generator. Occasionally, these laboratories and small-quantity generators will generate small amounts of PCB wastes. DLD provides this service as a cost-effective means of disposing of small quantities of PCB wastes. The PCB storage area occupies a very small percentage of wastes. DLD will accept only those PCB wastes that can be handled safely at this facility. We do not empty and/ or drain PCB transformers. The disposal options available to DLD are additional criteria used to determine the types of PCB received at this facility. In addition to the containerized PCB wastes, non-leaking, undamaged PCB capacitors and undrained PCB-contaminated electrical equipment are received at DLD for storage.

2.1 MAXIMUM INVENTORY

The maximum inventory of PCB wastes was determined by assuming that the types and quantities of PCBs received in the past five years of operation is reflective of the types and quantities of PCB wastes that will be received in the future.

PCB Item	Maximum Volume	Storage Area
PCB Capacitior Small and Large High- and Low-Voltage Types	220 gal.	DLS-1
PCB and PCB-Contaminated Transformers	165 gal.	DLS-1

PCB Container PCB Samples,debris, clothes, sawdust	110 gal.	DLS-1
PCB Container Liquid PCBs including paint wastes	605 gal.	DLS-1
PCB Capacitior Small and Large High- and Low-Voltage Types	220 gal.	DLS-3
PCB and PCB-Contaminated Transformers	165 gal.	DLS-3
PCB Container PCB Samples,debris, clothes, sawdust	110 gal.	DLS-3
PCB Container Liquid PCBs including paint wastes	550 gal.	DLS-3
PCB Container Liquid PCBs ≥ 50 ppm	5,000 gal.	DLS-3 (Tank #3)
PCB Capacitior Small and Large High- and Low-Voltage Types	220 gal.	DLS-5
PCB and PCB-Contaminated Transformers	110 gal.	DLS-5
PCB Container PCB Samples,debris, clothes, sawdust	110 gal.	DLS-5
PCB Container Liquid PCBs including paint wastes	1,100 gal.	DLS-5
	Total: 8,080 gal.	

2.2 DISPOSAL OF INVENTORY

DLD does not have a definite final closure date, but the date of final closure of the PCB storage area is estimated to be the year 2032. DLD will notify the Regional Administrator or Director at least 60 days prior to the date on which final closure of its PCB storage facility is expected to begin. No PCB wastes will be received by DLD 30 days prior to this estimated final quantity of PCBS, Within 60 days of completion of closure of the DLD PCB storage area, DLD will submit to the Regional Administrator or Director, by registered mail, a certification signed by the owner and by an independent registered professional engineer, which states that the DLD PCB storage area has been closed in accordance with the approved closure plan. DLD will submit to the Regional Director a written request whenever there is a need for a modification to its storage approval to amend its closure plan.

DLD does not treat the PCB wastes prior to their being shipped for disposal; however, PCB laboratory samples may be commingled to produce a homogeneous PCB waste that is acceptable to those incinerators presently being used by DLD. All those PCB wastes remaining in storage during final closure will be properly packed, manifested, and shipped off-site for incineration. DLD currently uses the incineration services of Veolia Environmental Services, Highway 73, Port Arthur, TX 77640. DLD understands that it is considered to be the generator of all PCB wastes shipped off site during closure and will comply with all aspects of the manifesting procedures as listed in 40 CFR 761.207. (e) (6) (iii).

As has been DLD's standard operating procedure, DLD will contact the aforementioned incinerator to obtain a PCB disposal site approval number and ship the PCB wastes off-site. Assuming no unforeseeable circumstances take place, the incineration capacities of Veolia should not decrease.

As mentioned previously, DLD may occasionally use tank#3, a 5,000-gallon, 304-type-stainless steel, bulk-storage containers to hold liquids contaminated with PCB's. These 304-type bulk tanks are designed, constructed, and operated in compliance with the Occupational Safety and Health Standards of 29 CFR 1910.106. Prior to being placed into service and annually thereafter, these tanks are inspected by an independent, qualified, registered professional engineer who attests to the tanks system's integrity in accordance with 40 CFR270.11 (d) . DLD has also prepared a Spill Prevention Control and Countermeasure Plan in compliance with the requirements specified in 40 CFR 761.65 (c) (7) (ii).

At the time of closure, Tank #3 which is a 5,000-gallon, stainless-steel, bulk storage tank, may contain liquid waste contaminated with PCB's. In this instance, the liquids would be manifested off-site for incineration. The tank itself would be decontaminated in accordance with 40 CFR 761.79 (a), "The solvent may be reused for decontamination until it contains 50 ppm PCB." It is assumed based on past experience that any PCB wastes stored in one of the 5,000-gallon bulk

tanks would be of a low PCB concentration. In this instance the first flushing [500-Gallons of flush] will remove the majority of the PCB residues. The second and third flushing's will use the same [an additional 500 gallons] ten percent flush solvent. The PCB concentration of the final flush would be below the 50 ppm level. It is therefore assumed that only 1000 gallons of the flush will be generated in the decontamination of the tank. The tank flushing's will be collected, tested , and sent off-site for incineration as PCB –contaminated liquids. Analytical levels of the final flush solvents indicating PCB levels of less than 50 ppm will be used to prove compliance with 40 CFR 761.79. At least three wipe samples, taken during the initial inspection of the facility, will be taken on the outside of the tank to determine if the external surface of the tank is contaminated. The PCB regulatory level for the external surface tank is 10g/100cm. Records and certification of this decontamination process as required under 40 CFR 761.125 (b) (3) will be compiled. These records will be maintained at DLD's facility for 5 years from the date of closure. If it is the intent of DLD to also close the hazardous-waste portion of this facility, this decontaminated tank will be transferred via motor freight to salvage yard or sold to a company requiring a tank of this size. This tank will not be sold to any business that may use this tank to store foods or food additive materials. All shipping papers and sales agreements on this tank will become part of the "Records and Certification" file. If, on the other hand, DLD will be closing only the PCB Storage area and related bulk tank, the tank in question will be decontaminated to the same prescribed clean-up level and then placed back in service as a bulk hazardous waste holding tank.

3.0 CLOSURE PLAN: SAMPLING, DECONTAMINATION AND COMPLIANCE WITH SPILL CLEAN UP POLICY

DLD is located in an industrial park area on the east side of Plainwell, Michigan. The PCB storage areas are located in the hazardous-waste-management areas DLS-1, DLS-3 and DLS-5. These areas are covered and contained and it is unlikely that any PCB will be released into the environment.

The areas of immediate concern during closure are those designated as hazardous waste processing and storage areas DLS -1, DLS-3, DLS-5 and the loading/unloading areas DLS-2 and the loading/unloading areas are of concern since both incoming and outgoing drummed PCB wastes move through these areas. The DLS-1, DLS-3 and DLS-5 areas are of concern since the PCB waste materials are stored and packaged in preparation for re-shipment to PCB incinerators for disposal. Since PCB materials have been associated with these areas the numerical standards, the statistical sampling program, the decontamination procedures (if required) and the verification procedures necessary to certify the closure of the PCB storage in accordance with 40 CFR 761 will apply to these six areas. PCB wastes are only moved through DLS-4.

The six areas in question – DLS-1, DLS-2, DLS-3, DLS-5and the loading/unloading areas– contain areas that can be classified as high-contact and low-contact industrial surfaces. DLS-1 is an approximately 24-foot-by-24-foot containment room within DLD's licensed hazardous-waste-management facility.

The **DLS-1** room is an enclosed area with three walls of concrete-masonry-block construction and with reinforced, sealed concrete floor. The east wall of DLS-1 is formed by two overhead doors. The entire room, except for the access ramp area, is enclosed by a 6-inch-high by 4-inch-wide sealed curbing. The 6-foot-access-ramp approaches rise to central height of 6 inches and, in conjunction with the curbing, form a separate containment area. The 6-inch curbing and ramp, coupled with the slope of the floor to a sealed 1,000 336gallon sump, produce a containment volume of 2,955 3026-gallons for DLS-1. All joints are caulked and sealed, and the area is regularly inspected to ensure that there has not been a breakdown in the integrity of the containment area. Since PCB's are stored in this area, statistical sampling, decontamination activities (if needed), and verification sampling procedures will be performed in this area. All of those levels below 6 feet in this area will be treated as high-contact industrial surfaces and will also be decontaminated to the same 10 µg/100 cm^2 (as measured by standard wipe tests). All those areas above 6 feet will be decontaminated to the same 10µg/100cm^2 standards (as measured by standard wipe tests).

Those wipe-sample areas indicating PCB concentrations above the $10\mu g/100cm2$ standard will be decontaminated with the appropriate PCB soluble cleaners and re-sampled to verify compliance with the cleanup standard. A wipe sample will also be taken from the inside of the sump. If any liquids are discovered in the sump, a grab sample, in lieu of a wipe sample, will be taken for analysis.

DLS-2, a 25-foot-by-50-foot area within DLD's licensed hazardous-waste-management facility, serves as a hazardous-waste-management area only. Raised access ramps between DLS-1 and DLS-2 and between DLS-2 and DLS-3 provide a passageway for moving PCB waste materials between the two PCB waste storage areas and the loading/unloading area at the north end of the facility complex. The north and south raised access ramps, coupled with 6-inch-high by 4-inch-wide, sealed, reinforced-concrete curbs surrounding DLS-2, provide a completely separate containment area. Within the DLS-2 area we also find a 24-foot-by-8-foot-by-2.7-foot sealed equipment well. Located in the southwest corner of the well is a5 ft by 21/2 foot by 4 foot hammermill. A 3.5-foot-by-3.5-foot-by -5.5-foot shredder is located in the northeast corner of the well. The discharge chute from a 6-foot-by-24-foot-by-4.5-foot sludge mixer is also located in this area, just west of the shredder. The sludge mixer itself is located in DLS-3, immediately adjacent to the DLS-2 equipment well. A 6-foot-by-24-foot aisle way is located along the west side of DLS-2.
(NOTE: The hammermill is used to crush empty laboratory-type glass bottles. The shredder is used to cut up empty plastic and small metal containers. The sludge mixer (cement mixer) is used to solidify heavy metal wastes with cement and aggregate prior to off-site shipment to a

licensed disposal facility. Neither PCB's nor any PCB containers are processed through these pieces of equipment.)

Since PCB's are only moved through DLS-2, All those areas above 6feet will be treated as low-contact industrial surfaces and will also be decontaminated to the same 10 μg/100cm^2 standard (as measured by standard wipe tests).

In **DLS-3** we find combined hazardous-waste and PCB storage areas. A 6inch-high ramp along the west wall provides containment access between DLS-1 and DLS-3. DLS-3 is a 75-foot-by-50-foot contained area. The lower bulk-storage area of DLS-3 is 50 feet by 25 feet. The sludge mixer is located in the DLS-3 contained area, and is immediately adjacent to the DLS-2 equipment well area. One PCB-storage area for containers, etc., is spatially located in the northwest quadrant of DLS-3's upper level east of the staircase leading to the bulk-tank-storage portion of DLS-3's upper level east of the staircase leading to the bulk-tank-storage portion of DLS-3 and occupies a space of approximately 160 square feet.

A second PCB storage area for containers, etc., is located just south of the stairway leading to the bulk-storage area and occupies a space of approximately 100 square feet. Located in the northeast quadrant of the upper level of DLS-3 are a commingling exhaust hood and a cyanide-treatment and chromium-treatment neutralization area. The commingling hood is raised above the floor. The cyanide treatment and chromium-treatment neutralization area occupies a floor area of approximately 45 square feet. The entire perimeter of this upper hazardous-waste and PCB storage area is enclosed by a sealed reinforced 6-inch-high by 4-inch-wide reinforced-concrete curbing. The sealed reinforced-concrete floor is sloped to centrally located drains which lead to the bulk-tank containment area (see part 9.1.C, 9.1.1 Design and Construction). The total containment volume of this upper-level, 50-foot-by-50-foot area is in excess of 11,000 gallons. Corrugated, enameled-steel-siding walls enclose DLS-3 on the west. The roof, which is contiguous with the roof over other licensed areas, is also corrugated steel. The floor in this area is constructed of 4inch reinforced concrete. All joints are caulked, and the area is regularly inspected to ensure that there has not been a breakdown in the integrity of the containment area. Statistical sampling, decontamination activities (if needed), and verification procedures will be performed in this area. All those areas above 6 feet will be treated as low-contact industrial surfaces and will also be decontaminated to the same standard (as measured by standard wipe tests.

The bulk-storage portion of DLS-3, with a containment volume in excess of 46,000 gallons houses three 8-foot-diameter-by-14-foot bulk-storage tanks. Of these, only tank #3 will hold PCBs when necessary. These bulk-storage tanks are located along the northern wall in this lower DLS-3 area. The tanks are sitting on a 6-inch high concrete-reinforced pad. The floor in this lower level is constructed of 6inch reinforced concrete. All joints are caulked, and the area is regularly inspected to ensure that there has not been a breakdown in the integrity of the

containment area. Statistical sampling, decontamination activities (if needed), and verification procedures will be performed in this area. All of those areas below 6 feet will be treated as high-contact industrial surfaces and will also be decontaminated to the same 10 μg/100cm^2 standards (as measured by the standard wipe tests). A pre-cleanup survey and screening sampling plan will be used to determine those areas within DLS-3 that require decontamination (if any).

Number of samples to be collected for PCB analysis in each area:
It was our understanding that random sampling would be done before cleanup was started to ascertain whether actual PCB contamination existed in each area, and if it did then the Investigator would then decided a sampling pattern to determine the extent of the contamination. Using the *Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup*, Section 5.4, the following number of sampling points are approximated.

DLS-1: The PCB storage area of DLS-1 is 24 x24 ft. Calculating a circle with a diameter 17 ft would account for 37 sampling points.

DLS-3: DLS-3 has two storage areas. One area is 160 square ft. and calculating a circle with a diameter of 91/2 ft.would account for 19 sampling points. The second area is 100 sq. ft with a circle the diameter of 7 ft. accounting for 19 sampling points.

DLS-5: The PCB storage area of DLS-5 covers an area of 180 sq. ft. Calculating a circle with a 61/2 ft. diameter would account for 19 sampling points.

DLS-2: As this acts as a corridor between DLS-1 and the loading dock, it 4 sampling points is estimated.

Loading docks: Estimating a 100 square foot area that could be impacted by loading /unloading activities, which would result in a100 sq. ft with a circle the diameter of 7 ft. accounting for 19 sampling points for each dock.

3.1 - Total sampling points is 117.

All equipment used to handle PCB containers or used to process PCBs or PCB containers (i.e. forklifts, drum carts, manual tools) will undergo wipe sampling to determine if the equipment is PCB contaminated. If so, the equipment will require decontamination during closure.

3.2. SAFETY PLAN

This is written to inform the survey/sampling team and the decontamination team of the potential hazards associated with PCB's and to establish standard operational procedures that are protective of both workers safety and the environment. The abbreviation PCB refers to

polychlorinated biphenyls. PCB's are a family of man-made chemicals that contain 209 individual compounds. Because of their insulating and nonflammable properties, they have been used widely as coolants and lubricants in transformers, capacitors, and other electrical equipment. The industrial manufacture of PCB's was stopped in the United States in October 1970, because it had been discovered that PCB's would accumulate and persist in the environment and could cause toxic effects

To respond quickly and appropriately to any expected or unexpected emergency during closure at DLD requires the coordinated effort of a number of well-informed and trained individuals. DLD health and safety officer (s) will be managing the closure effort. If a third party is responsible for closure, the name and emergency numbers for the health and safety officer (s) will be modified to be reflective of this change. The names and positions of emergency coordinators as well as contact information can be found in DLD's updated Contingency Plan.

3.3 COMPONENT DATA

DLD accepts both hazardous and PCB wastes into its RCRA licensed treatment and storage facility. The hazardous wastes accepted at DLD which may be present during the site inspection and sampling, can be classified into four groups;

1. CHARACTERISTIC WASTES (Ignitability/40 CFR 261.21, Corrosivity/40 CFR 261.22, Reactivity/40 CFR 261.23)

2. HAZARDOUS WASTE from NONSPECIFIC SOURCES (40 CFR 261.31).

3. HAZARDOUS WASTE from SPECIFIC SOURCES (40 CFR 261.32)

4. DISCARDED COMMERCIAL CHEMICAL PRODUCTS of SPECIFICATION SPECIES, CONTAINER RESIDUES, RESIDUES THEREOF (40 CFR 261.33)

The following wastes are not acceptable at DLD:

1. RADIOACTIVE WASTE except tritium and carbon 14 in non-regulated quantities and naturally occurring salts in laboratory quantities.

2. DIOXIN-BEARING WASTES DLD also handles medical wastes from hospitals, clinics, and laboratories as regulated by the State Of Michigan's medical waste management act. ("Michigan Public Acts 368 of 1990").

It is assumed that the types of PCB's that will be present on the DLD site, as reflected in the maximum inventory (Section 9.2.1, Maximum Inventory), would fall within the scope of the following common Aroclors:

Aroclor-1016
Aroclor-1221
Aroclor-1232
Aroclor-1242
Aroclor-1248
Aroclor-1254
Aroclor-1260

3.4 HEALTH HAZARD DATA

The primary routes of exposure to PCB;s are inhalation, ingestion, and skin/eye contact. The potential for exposure to PCB's is minimal, since the PCB wastes, if present, will be contained within approved Department of Transportation containers. This will not preclude the use, however, of external body protection during the site investigation, sampling, and decontamination. PCB's are suspected human carcinogens. Experimentally, PCB's have been shown to be carcinogens, cause tumors, and to have reproductive effects.

3.5 SAMPLE TECHNICIAN TRAINING

All sampling personnel, as well as other personnel working on this closure site will be required to have completed an:

1. Occupational Safety and Health Administration (OSHA) 40-hour Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120) with annual 8-hour updates.
2. OHSA Hazard Communication Program.
3. A Standard First Aide Course including cardiopulmonary resuscitation (CPR).
4. Evacuation Procedures Plan
5. Chemical Spill Control Procedure per the SPCC Plan.
6. Use of personal protective equipment (29 CFR 1910 Subpart I)
7. Respiratory training and fit test (29 CFR 1910.1340)

In addition to this training, a PCB sampling technician should have a minimum of three months on-the-job training with a seasoned sampling technician.

3.6 WEATHER-RELATED PRECAUTIONS

The DLD storage is covered with a roof and is enclosed on the North, West, and South. The prevailing winds in this area are predominantly from the Southwest and West/Southwest. Thus,

weather-related problems are not a concern at this facility. Also, no PCB wastes are stored outside of the protected containment areas.

4.0 INITIAL INSPECTION OF THE FACILITY

The initial inspection of the facility will be completed either by DLD personnel or a third-party contractor. At the time of closure, the areas designated as DLS-1, DLS-2, and DLS-3 will be free of all stored hazardous and PCB wastes. The only items remaining in the area will be the empty chemical-segregation units, the sludge mixer, the exhaust hood, the three bulk storage tanks in DLS-3, the three bulk storage tanks in DLS-4, and the glass grinder and shredder in DLS-2.

Before beginning the initial investigation, the investigators will mark a facility map with the sampling grids for DLS-**-1** DLS-**2,** DLS-4, DLS-5 and for the unloading/loading areas. When dressed out in the protective clothing as described above, a team of at least two investigators will stake out all the sampling locations and mark off all the wipe sample locations with labeling tape. If any of the sample locations happen to be in a sump that contains liquids, a grab sample will be taken instead soil sample locations will be indicated by a stake. They will give each sample location a unique number. Each sampling point will be recorded in a field logbook, on the facility map, and on the tape or stake at the actual location.

4.1 SOIL SAMPLING

At the present time, no soil sampling is expected. Both the non-hazardous and the hazardous loading docks are covered, concrete areas. There is a concrete pad surrounding the open sides of the process areas. Access to the soil is unlikely.

4.2 OTHER MEDIA

DLD is required, under its RCRA license as a treatment and storage facility, to have groundwater monitoring wells on its property. The monitoring wells surround the active portion of DLD's facility and provide both upgradient and downgradient water-quality levels. These wells are sampled quarterly and the sample will be expanded to include PCB's in separate sampling containers.

We reiterate that all PCB storage is within the covered and weather-protected containment areas No PCB wastes of any type are stored or handled outside of these areas. All PCB wastes received at the DLD facility are containerized. No containers are left uncovered while in storage..

4.3 DOCUMENTATION OF AREAS OF PCB CONTAMINATION

If any sample analysis indicate PCB contamination above the stated levels, the area those samples were taken from will be documented both photographically and by indicating the measured coordinates of the contaminated area on the facility map. Measurements recorded on the facility map will be from fixed points, so suspected areas can be located later if necessary. Photographs will be taken in such a manner that the background will provide the orientation of the photograph within the facility. The site inspectors will provide a written documentation of their findings, which will become a part of the closure records.

4.4 SAFETY PRECAUTIONS FOR THE SAMPLING INSPECTION

Personnel conducting the initial site inspection and/or sampling will be dressed in accordance with the requirements established in the safety plan. The personal protective features of the safety plan stress the over-protection of the individual with respect to the contamination and risks associated with the DLD facility. No safety precautions other than those addressed in the safety plan are required for the closure inspection and sampling

4.5 FACILITY STRUCTURAL INTEGRITY

The initial soil samples to be taken along the edge of the concrete apron will give a good indication of the integrity of the containment structure of DLS-1, DLS-3 and DLS-5. PCB's are rather ubiquitous in today's environment, having been carried by wind currents to nearly every corner of the earth. PCB levels in the soil samples below regulated levels are a good indicator of the integrity of the containment structure. During the initial site investigation, inspectors will pay particularly close attention to any indicators of failure of the containment area. Such indicators might be; separation of the floor surface due to uneven settling of the floor over time, stress fractures in the concrete surface, loose or missing caulk at joint intersections, etcetera. Inspectors will determine at the time of the initial visit if any of these or any other indicators of integrity failure exist, and if such failed areas require sampling.

4.6 SAMPLING PLAN/SAMPLING LOCATIONS

Following the initial site investigation, a screening-sample program of the designated areas will be completed. In those areas indicating any PCB presence, the resampling scheme used will be the one laid out in the Midwest Research Institutes "verification of PCB spill cleanup by sampling and analysis" and "field manual for grid sampling of PCB spill sites to verify cleanup" documents. The technician will enter the sample collection data in the field logbook and on the chain-of-custody form. The technician will clean the trowel and change gloves in-between sample points.

4.7 EVALUATION AND REPORTING

This sampling scheme was devised in order to take an assessment of the amount and distribution of PCB's within the active portions of the containment areas within DLS-1, DLS-2, DLS-3, DLS-5 and the loading/unloading areas. This approach is designed to provide the criteria for determining which areas of the facility are "clean", which areas are above regulated levels, which areas require additional sampling, decontamination, and verification sampling. In addition, if the data is normal, the samples taken will minimize the t-value used to calculate a confidence interval around the mean.

The data collected during this screening will be used to determine whether any of the surface areas in DLS-1, DLS-2, DLS-3, DLS-5 and the loading/unloading areas are above the regulated levels and to characterize the distribution/concentration of the PCB's within these areas. The evaluation techniques will be carefully reviewed by DLD's contracted consulting firm's quality-assurance staff. A report will be generated from the investigation to document and evaluate the findings. Field records including chain-of-custody forms and field sampling logs will be reviewed, verified and maintained by DLD and their contracted consulting firm. The same would be true for any third-party closing the site.

Should any of the analyses of the wipe or soil samples indicate an area that requires further investigation, statistical sampling grids based on a sampling scheme adapted from the Midwest Research Institutes "Verification of PCB Spill Cleanup by Sampling and Analyses" and the "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup" documents, will be developed for these areas. These grid sampling designs will be used to establish the concentration and extent of the contamination so that the entire contaminated area surrounding the "hot spot" can be properly decontaminated to acceptable regulatory levels.

4.8 SAMPLING METHODS

The surface areas to be sampled are; sealed cinder-block walls, enameled-steel siding, enameled-steel door panels, a cinder-block wall sealed with a non-porous xylene sealer, and the concrete apron. For the most part, the sealers or enamel painting provide an impervious bearer to spilled or released PCB's, and therefore wipe samples are recommended for these areas. 2 Screening samples will be soil samples.

4.9 WIPE SAMPLES

At each indicated interior sampling location the sample technician (dressed according to the safety plan) will take a wipe sample. The technician will have at his/her disposal all pre-cleaned properly prepared sample bottles, and replicate-sample bottles. The technician will also have an:

adequate supply of chemical-resistant gloves, templates, trowels, field logbook, calculator (capable of generating random numbers within the limits established above), camera, and chain-of-custody forms.

At each of the wipe sample sites, the technician will hold the 10cm x 10cm template over the point indicated by the sampling grid. If no assistant is available, the technician may need to tape the template to the wall when sampling vertical surfaces. The technician will log into the field logbook the exact location and number of each sampling site.

A photograph of the site should also be taken as an additional documentation source. When the technician is ready to sample, he/she will carefully remove the 2in by 2in gauze square saturated with hexane from the sample bottle's integrity, and wipe across the entire surface outlined by the template. Wiping should be first in a horizontal direction and then in a vertical direction with a moderate amount of pressure. The gauze is then returned immediately to the bottle and the bottle is sealed appropriately labeled and placed in an ice chest to keep the sample 4ºC. Once the bottle is in the ice chest the technician completes a chain-of-custody form and puts any additional notes in the field logbook. Gloves and used templates are discarded to avoid cross-contamination. All disposable waste materials used in the sampling process such as gloves, templates, etcetera will be handled as PCB contaminated items and disposed of properly.

At each of the soil-sampling points the technician will outline an area 10cm by 10cm about the established sampling point. The soil will be scraped to a depth of about 1cm, using a stainless-steel trowel. The soil will be placed in a pre-cleaned bottle, the bottle capped and sealed, the label filled out and the bottle placed in an ice chest to keep the sample at 4ºC. The technician will enter the sample collection data in the field logbook and on the chain-of-custody form. The technician will clean the trowel and change gloves in-between sample points.

5.0. QUALITY ASSURANCE AND QUALITY CONTROL

The overall objectives for the Quality-Assurance Procedures are as follows;

- Ensure the quality data generated by the study meets the goal of the investigation.
- Maintain the value of any data produced in this study as evidence in any legal action or suit.
- Ensure the validity and integrity of the data/results of the site investigations, laboratory analyses, and technical reports.
- Ensure that site management assessments, actions, and designs are properly prepared and approved.
- Guide the quality of the specified work performed by all personnel involved in the study.

5.1 SAMPLE CONTAINER PREPARATION

A certified testing laboratory will provide all sample containers. The containers will be prepared according to all applicable container preparation methods and quality-assurance procedures.

5.2 DECONTAMINATION PROCEDURES

All tools that encounter potential contaminates material will be decontaminated after each use. The procedure that will be followed includes, but is not limited to:

- Tools will first be rinsed in a PCB-compatible solvent, and then washed in an Alcon ox soapy-water solution made from clean water. A brush may be used to facilitate the process.
- The tools used will be rinsed in a clean water rinse.
- The tools will be rinsed in a second clean water rinse.
- Rinse and wash waters will be changed frequently.
- The tools will be allowed to air dry before use.
- The tools may be wrapped in foil to prevent recontamination during storage or transportation.

All wash and rinse waters and any equipment that cannot be decontaminated will be placed in DOT approved 55-gallon drums, labeled, and manifested off-site to a licensed facility.

5.3 ANALYTICAL LABORATORY QA/QC

All analyses will be performed by a certified laboratory.The laboratory manager, in cooperation with the laboratory area supervisors and QA supervisor, performs individual audits on all aspects of the operation. Before any samples are analyzed and once per week thereafter. All of the qc criteria set forth in EPA Method 8082 must be met before any samples are analyzed. These audits include an evaluation of the performance data, control limits, records, and laboratory performance on all check samples and blind QC samples. A report of the audit results, including recommendations, is forwarded to the director of analytical services, if requested.

5.4 CHEMICAL ANALYSES DATA VERIFICATION

The data-validation process should include a set of computerized and manual checks at various appropriate levels of the measurement process.

The data-validation process starts with the laboratory analyst. The analyst verifies in his/her laboratory notebook that all methods specific operational parameters are utilized and/or met. This information is to be specifically documented in all instrument logbooks. The analyst then

verifies that the calibration of the logbooks. The analyst then verifies that the calibration of the equipment is linear and documents this in the instrument logbooks.

If the operating parameters of a method are modified, it will be written in the analysts' lab notebook. A non-calibrated system will be identified by the analyst and calibrated prior to sample analysis.

The generation of sample data by an analyst includes the generation of quality-control data for each sample set. All data will be calculated according to the procedures and formulas set forth in epa method 8082. All results will be reported to three significant digits. The monitoring of method blanks, sample spikes, method spikes, and sample duplicate analysis is accomplished by adherence to precision and accuracy of data for each method, the analyst computes the data precision and accuracy and compares the computed value acceptance intervals identified for the method. The computed value will be determined in control if it lies within the acceptance interval. If the computed value is deemed out of control, the data set is not submitted for supervisor approval, but it is to be brought immediately to the attention of the supervisor via a corrective-actions form that an out-of-control condition exists. Jointly, a review is conducted to determine the cause(s) and conduct corrective action. The data set is rerun once the corrective actions have taken place, and the new data reviewed as stated above.

5.5 ACCURACY, PRECISION AND SENSITIVITY OF CHEMICAL ANALYSES

The fundamental QA objective regarding the accuracy, precision, and sensitivity of laboratory analytical data is to achieve the QC acceptance criteria of the analytical protocols. These QC control limits should be completely met without outliers.

Typically, if an out-of -control result occurs, the analyst will identify it as such and report the occurrence to the Group Leader and/or Area Supervisor. This person will review the corrective actions form with the analyst to identify the problem and discuss the corrective action(s) taken. The corrective action(s) will be identified in the analysis notebook and in writing to the QA Supervisor. The QA Supervisor will review the corrective action by the new in-control data point for the same data set. Transportation blanks or trip blanks are used to evaluate the possibility of contamination of a sample from environmental factors associated with sample transportation, containers, or preservatives. These blanks will be handled and transported in the same manner as containers used for field samples. Transportation blanks will be collected for each sampling trip. The soil blanks will be composed of commercially available sand material that will have been previously analyzed for the soil sample parameters.

5.6 EQUIPMENT FIELD BLANKS

Field blanks are used by project personnel to evaluate the effectiveness of equipment-cleaning operations or to evaluate sample contamination from environmental factors other than the source being investigated. Examples of field blanks are:

- After the sample collection device has been used and cleaned, a volume of demineralized and organic-free water is placed in the device (or pumped through it) and a s field blank collected. A rinse sample will be collected during the investigation if the same trowel is used each time.
- A field blank can be prepared by filling a sample bottle with demineralized water while in the field. Normally, this procedure is used if air contaminants at the site suspected.

The number of blanks will be dependent on upon the site field operations. At a minimum, blanks will be collected from the soil sampling device.

5.7 REPLICATE SAMPLES

Replicate samples or duplicates are collected from one sampling point at the same time the original sample is collected. Approximately one to ten samples will be duplicate samples. Duplicate samples will be taken of all the same types. Duplicate samples are used to determine the precision of the sampling procedures.

5.8 CHAIN-OF-CUSTODY (FIELD)

To document sample possession from the time of collection until the sample has been received by the analytical laboratory sample custodian/coordinator, a chain-of-custody form will be completed by field personnel and will accompany every sample shipment. Proper custody of the samples will be documented. As few people as possible will handle the samples. While in the field, it is the field technician's personal responsibility for the care and custody of the samples until they are transferred or properly dispatched. This chain-of-custody procedure will be followed during all sampling assignments, regardless of the ultimate use of the sample data for this project.

Each record will contain the following information: the signature of the collector, date and time of the collection, sample type, signatures of persons involved in the chain of possession, and inclusive dates and times of possession. The field log (s) and final evidence file are also part of the overall chain-of-custody requirements of this project.

5.9 DOCUMENTATION/RECORDS

The field technician will properly identify the exact location of the sample taken; the date upon which it was obtained; whether or not preservative have been used and, if so, what type; the name of the sampler; the clients name; and the respective project number. Each site will also be given a unique number. This information is to be documented in the field sampling log of the individual and/or the site logbook. This same information is then placed on the sample identification tag, which in turn is affixed to the sample container. All sample tags will be filled out with an indelible ink to prevent to prevent illegible sample information. If the field sampler determines that additional information is pertinent to the sample being taken, such data can be recorded in the logbook.

5.10 CHAIN-OF-CUSTODY (LABORATORY)

All samples for this project will be under strict chain-of-custody procedures. This means that all samples must be traceable from the time the samples are received at the certified analytical laboratory until the results are reported and sample disposition has been determined.

All samples will be received at the certified analytical laboratory by the sample custodian/coordinator. It will be the responsibility of the sample custodian/coordinator to determine:

1. Which analyses are to be performed on the arrived samples;
2. Whether or not samples are labile in nature and require immediate attention; and
3. The way those samples will be split, preserved, and stored or routed.

It is the objective of the custodian/coordinator to ensure that the receipt of all samples is consistent with the requirements and that all pertinent information relative to those samples is recorded.

5.11 EXAMINATION OF CONTAINER CONTENTS

It is the sample custodian/coordinator's responsibility to examine whether each of the sample containers is individually sealed, whether those seals are intact, whether a sampler's initials are on the seals, and whether the paperwork matches the contents of the package. In addition, the sample custodian/coordinator will note whether all the dates and times are consistent, and whether the sample description on the paperwork matches the description on the sample container.

5.12 CHAIN-OF-CUSTODY LOG-IN

All samples received at the certified analytical laboratory must be logged in before work is performed on the samples. The purpose of the log-in procedure (including sequential numbers assigned to all samples received in the facility) is to ensure that the analytical laboratory has a means by which samples can be tracked, data can be stored, and quality control can be tracked for any sequence of events during a particular analytical period. In handling projects in this manner, the analytical laboratory and DLD can ensure a consistent and documented sequence of events under any analytical situation.

After the sample custodian/coordinator has inspected the shipping containers, the project sheets, the samples and any documentation required, the sample custodian/coordinator, i.e., date and time received.

Minimum information required for log-in includes:

- DLD's name, contact person, and project number
- due date
- analytical test or test codes, or group tests
- specific project comments
- contract requirements
- contract number
- pricing, if necessary
- chain-of-custody requirements
- specific report requirements

The sample custodian/coordinator will complete a chain-of-custody project log-in form.

All samples received for the DLD project will be kept in a locked storage area and will be distributed for analysis to the laboratory only when the analyst has signed for the samples on the attached internal custody form. The sample custodian/coordinator or a designated representative will provide access to the chain-of-custody storage. Records of movement of all chain-of-custody samples within the lab facility will be recorded.

5.13 CHAIN-OF-CUSTODY (PROJECT FILES)

All analytical project files will be kept in a project folder in a locked cabinet with all related documents and paperwork relative to those files.

5.14 MAINTENANCE OF LABORATORY CUSTODY

Laboratory custody must be consistent with all the chain-of-custody requirements from the beginning of sampling to the final report. To this end, every analyst requiring access to the samples will go to the sample coordinator/custodian for access to the samples chain-of-custody

locked sample storage. The sample custodian/coordinator will ensure that the analyst returns and signs in those same samples on the same day for which they were signed out. This documentation, after the completion of all analyses, will be placed in the project file by the sample custodian/coordinator.

5.15 LABORATORY CUSTODIAL RESPONSIBILITIES

It will be the responsibility of every analyst signing for a sample or samples to ensure that:

a. these samples are kept in a minimum access facility;
b. they are within their possession during the period of which they are being analyzed; and;
c. the analyst returns those samples to the chain-of-custody lockup in the manner prescribed.

The analyst will sign out and return the samples to the chain-of-custody lockup on the same day. The analyst will be using the sample coordinator as the sample custodian/coordinator for all chain-of-custody samples.

5.16 CHAIN-OF-CUSTODY (SAMPLE DISPOSAL)

All samples received for the project will be secured in the certified analytical laboratory chain-of-custody lockup facilities until a final report is issued. No chain-of-custody samples may be discarded until written permission is received relative to disposal of those samples.

5.17 LABORATORY ANALYSES

The laboratory will conduct all analyses in accordance with U.S. EPA's SW-846 "Test Methods for Evaluating Solid Waste" 3rd Ed. Nov. 1986, METHOD 8082. THIS procedure incorporates stringent quality control requirements and describes precision, accuracy, calibration criteria, internal standards, and method-detection limits.

The following list summarizes these requirements for PCB analysis:

PRECISION (AS MEASURED BY MATRIX SPIKE DUPLICATES) ……<15% RSD

ACCURACY (AS MEASURED BY CHECK SAMPLE RECOVERIES) ……....85% TO 110%

BIAS (AS MEASURED BY SURROGATE COMPOUND RECOVERIES) …....85% TO 110%

BIAS (AS MEASURED BY MATRIX SPIKE RECOVERIES) ……...….85% TO 110%

METHOD DETECTION LIMIT, WIPE SAMPLE…….0.10 mg/100cm

METHOD DETECTION LIMIT, SOIL…….…….0.06 mg/kg

METHOD DETECTION LIMIT, WATER……...……....0.50 mg/L

5.18 CALIBRATION CRIETERIA:

A five point calibration curve must be established for each analyte. The linearity of 5 point calibration curve must be established by demonstrating that the response factors have a relative standard deviation of less than 20%. The calibration curve must be verified by a midrange calibration check sample at the beginning of every day and no less than every 10 samples thereafter. The response factor must be ±15% of the average response factor of the five point calibration curve. All standards will be made from NIST traceable materials uand pesticide grade or better solvents.

The following methods as listed is SW-846 will be used to test for PCB's:

SOIL:

PARAMETER	SW-846 METHOD
PCB's Aroclors 1016, 1221, 1232 1242, 1248, 1254, and 1260	8082

WIPE SAMPLES:

PARAMETER	SW-846 METHOD
PCB'S Aroclors 1016, 1221 1232, 1242, 1248 1254 and 1260	8082

6.0 DECONTAMINATION PROCEDURES

Decontamination procedures for PCB's will only be implemented at the DLD containment facility if the statistically valid screening samples uncover that there are individual sites of contamination or if the screening samples indicate that the entire facility has levels of PCB

contamination above the regulated levels. If the screening samples all prove to be below the regulated levels, the site is "clean", and decontamination would not be needed. In this instance it would be up to the owner or operator of DLD to decide if they want to clean the facility further.

If, on the other hand, the screening samples indicate areas that are above the regulated levels, those areas will be decontaminated. To determine the extent of the contamination, DLD or the third-party consulting firm will establish a sampling grid about the "hot spot" and perform additional sampling to determine the extent of the contamination.

Once the areas of containment have been resampled and the extent of the contamination has been mapped out; the areas will be decontaminated. Workers performing the decontamination process will be dressed and protected in accordance with the safety plan. At a minimum, workers will be dressed in hooded Tyvek suits, with protective boots chemical-resistant gloves, safety goggles, hard hat with a face shield and half-face respirator (or a full face-piece respirator with organic-vapor cartridges and dust filters, may be used in place of the half-face respirator, goggles, and face shield). The worker must have completed the OSHA 40-hour Hazardous Waste Operations and Emergency Response training with the annual 8-hour update training, OSHA Hazard Communication program, and Standard First-Aid Course with CPR. The workers must be covered by medical surveillance company programs which includes annual reviews.

As mentioned previously, the design of the DLD facility with an open eastern wall will provide enough natural ventilation to keep the exposure to PCB's well below the exposure limits. The protection of the workers as described above will decrease their exposure to dust and mist that will be produced during the decontamination process. In the decontamination process, solvents with a high solubility for PCB's will be used and applied by high-pressure sprayers. Heavily stained areas will be brushed as needed. The washing will be followed by a rinse with a water-based solvent which is compatible with the initial wash solvent. The sprayed solvents and rinses will be vacuumed up. Care will be taken to prevent the release of any cleaning materials and residues into the environment. Following the initial cleaning, the contaminated areas will be high-pressure washed again with PCB-compatible solvents, rinsed, and all wash solvents will be recovered by vacuuming. Likewise, the drain system in DLS-3 will be washed with high pressure sprayers using the same PCB-compatible solvents. A container for collecting wash liquids will be placed below the outlet of this drain system, the drain covers and the drainpipe immediately below the drain covers will be thoroughly washed. A sewer jet using the same PCB-compatible solvents will be placed in the upper drain opening and pulled the length of the pipe. This process will be repeated twice; the initial washing followed by two more washings equal the three flushs required by 40 CFR 761.79 decontamination procedures.

All wash solvents will be treated as PCB wastes and will be shipped off-site for disposal by incineration. If the soil samples indicate that PCB'S above regulated levels are found in the soils adjacent to the concrete apron, a sampling grid and core samples for the indicated area or areas

will be established to discover the extent and depth of the contamination. Following these additional samplings, the amount and depth of penetration of the PCB's will be established. The contaminated soils, plus an additional 4 inches in depth and 12 inches beyond the outer boundary of contamination, will be removed. Following verification sampling, which indicates that all regulated levels of contamination have been removed, the site will be backfilled with soils containing less than 1 ppm PCB's.

Should decontamination of any of the active portions of the DLD facility be required, the random samples taken from the stationary equipment (such as the hammermill, shredders, sludge mixer, and commingling hoods) will be used to determine if these items require decontamination. If required, the exterior of these equipment items will be washed twice with a high-pressure sprayer using a PCB-compatible solvent. All liquids generated from this process will be collected in 55-gallon drums or vacuum truck, properly labeled, and shipped off-site to a licensed disposal facility.

None of the equipment used at the DLD facility comes into contact with PCB's. All other equipment used to handle containerized PCB's, such as barrel carts, a drum wench, and drum pallets. if used, only contact the exterior of the container. However, if screening samples indicate that any of the DLS areas require decontamination**,** any PCB drum pallet will be decontaminated by the following procedure or properly disposed of, as applicable, the three barrel carts and the drum wench used in the regulated portion of the facility will be washed twice with a high-pressure sprayer using a PCB-compatible solvent and rinsed with a water based solvent. All liquids generated from this process will be collected in 55-gallon drums or vacuum truck, properly labeled, and shipped off-site to a licensed disposal facility.

All third-party contractor equipment used in this decontamination process shall be PCB-dedicated equipment. All equipment used in the decontamination process will be cleaned in accordance with the requirements established in 40 CFR 761.79 (b) using the same PCB-compatible solvents prior to their removal from this site. All liquids generated during this decontamination of the equipment will be collected, placed in 55-gallon drums or a vacuum tanker, and shipped off-site to a licensed PCB facility. Any equipment such as brooms, squeegees, absorbent pads, Tyvek suits, rubber gloves, over-boots, etc., which cannot be effectively decontaminated will be drummed in appropriate DOT containers, labeled, and disposed of as solid PCB wastes.

6.1 VERIFICATION SAMPLING

Following decontamination of the indicated area (s), verification sampling will take place. If the entire area needs to be decontaminated, then a sampling program using sixty-five (65) samples and verification samples will be used

If, on the other hand, only individual sites needed decontamination, then new sampling grids rotated 90 degrees to the pre-decontamination sampling grids will be developed and verification samples taken.

In either case, the results of these verifications will determine if additional decontamination is needed or of the site is "clean."

The analytical methods to be used in the verification sampling are the same as those specified above under "Laboratory Analyses."

All concentrated soils, wash solvents, rags, disposable clothing, and any other materials, which cannot themselves be decontaminated and result from the decontamination procedures will be properly stored, labeled, and disposed of in accordance with the provisions of 40 CFR 761.60. DLD's preference is that all such items be shipped off-site for incineration.

6.2 SCHEDULE FOR CLOSURE

It is difficult to see into the future so the transportation and disposal facilities chosen by DLD will be fully licensed and approved by TSCA before material is sent for disposal.

6.3 MODIFICATION TO CLOSURE PLAN

In accordance with 40 CFR 761.65 (e) (4), DLD will submit to the Regional Administrator or Director a written request whenever there is a need for modification to its storage approval to amend its closure plan. A request will be submitted whenever;

1) There is a change in ownership, operating plans, or facility design, which affects the existing closure plan.
2) There is a change in the expected date of closure, if applicable.
3) In conducting closure activities, unexpected events require a modification of the approved closure plan.
4) Financial status changes, which may result in an inability to adequately pay for the closure.

6.4 CLEAN CLOSURE CERTIFICATION

Within 60 days of completing final closure, a clean closure certification will be submitted to the Regional Administrator or Director of Region V by certified mail. This certification will state that the DLD PCB Storage facility has been closed in accordance with this approved closure plan. The certification will be signed by the owner/operator and by an independent registered professional engineer.