FACT SHEET

Proposed Relicensing of

The Dow Chemical Company
Michigan Operations, Midland Plant
and
Salzburg Landfill
Hazardous Waste Treatment, Storage, and Disposal Facilities
Midland, Michigan

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Michigan Department of Environmental Quality
Office of Waste Management and Radiological Protection

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LIST OF ATTACHMENTS

I. EXECUTIVE SUMMARY

The Michigan Department of Environmental Quality (DEQ), Office of Waste Management and Radiological Protection (OWMRP), proposes to issue a merged renewal operating license (License) to The Dow Chemical Company (Dow) for the continued operation of the Michigan Operations, Midland Plant (Midland Plant) and Salzburg Landfill hazardous waste treatment, storage, and disposal units at its facilities located at 1790 Building Washington Street and 2314 West Salzburg Road in Midland, Michigan. These two Licenses were previously issued separately in 2003 and 2009, respectively, but the DEQ is now proposing to sync their issuance so that there will be common License conditions and attachments for the two facilities, where possible, and the public will have the opportunity to review and provide comment on all of Dow's hazardous waste management operations under the same licensing action. Both facilities' License applications have been/are being updated to use the OWMRP's standardized templates. Some of these templates become attachments to the License. This work has been fully completed for the Midland Plant and partially completed for the Salzburg Landfill. Completion of the template updating for the Salzburg Landfill will be done under a License compliance schedule. These changes are administrative in nature and do not substantively change the technical content of the applications.

The DEQ proposes this action pursuant to Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), and its administrative rules, R 299.9101 *et seq* of the Michigan Administrative Code (MAC).

On April 12, 2013, Dow submitted renewal License applications for the facilities. On June 7, 2013, the DEQ determined the License applications were administratively complete. On March 31, 2015, the DEQ determined the License applications were substantively technically adequate. The issuance of the new merged License shall constitute a final determination on the License applications. The term of the License would be 10 years. Because the License regulates the Midland Plant Tertiary Pond surface impoundment and the Salzburg Landfill, which are both considered to be "land disposal units," it contains a reopener provision that would allow the DEQ to review the License after five years for these units to determine if any modifications are necessary.

The provisions of R 299.9518 require the DEQ to issue a License to operate a hazardous waste treatment, storage, or disposal facility unless: (1) the facility has not been constructed in accordance with approved plans and applicable rules; (2) the construction or operation of the facility presents a hazard to public health or the environment; or (3) the applicant has not submitted sufficiently detailed or accurate information to enable the DEQ to make a reasonable judgment on whether or not to issue the License.

Based on the DEQ review of the License applications and site inspections and audits, the agency proposes that the License be issued because:

A. The License applications appear sufficiently detailed for the DEQ to evaluate the facilities and their impact on human health and the environment.

B. The facilities satisfy the technical design, construction, and operating standards under Part 111 and its administrative rules. Section III of this Fact Sheet describes the sites, the design of the facilities, and the proposed combined relicensing of the facilities.

C. The facilities' current operations do not present a hazard to human health or the environment. This conclusion is based on compliance inspections conducted by DEQ staff. The compliance history of the facilities since the issuance of the 2003 and 2009 Licenses until present is summarized in Attachment 1, Hazardous Waste Compliance History, to this Fact Sheet. Dow has not been found to be significantly out of compliance during the DEQ inspections and has quickly returned to compliance when cited. Environmental monitoring of the groundwater, soil, ambient air, and surface water conducted by Dow and audited by the DEQ do not at this time show for these media that any unpermitted releases are occurring.

D. In addition to the standard and general facility conditions contained in all operating licenses, the draft License contains conditions specific to Dow's treatment, storage, and disposal activities. An explanation of these conditions is included in Section III of this Fact Sheet. Section IV of this Fact Sheet addresses the environmental impact of the facility. The portions of the License applications that describe how the facilities will comply with certain regulations have been attached to the draft License as enforceable documents, including, in part: Waste Analysis Plan, Inspection Schedules, Personnel Training, Contingency Plan, and Closure and Post Closure Plans.

E. Corrective action for the off-site historical releases of contaminants (dioxins) from the Midland Plant facility to Midland area soils via air deposition is currently being addressed by Dow under the oversight of the DEQ. Corrective action for the off-site historical releases of contaminants from the Midland Plant facility to the surface water, sediments, and soils of the Tittabawassee and Saginaw Rivers and floodplains and the Saginaw Bay is currently being addressed by Dow under the oversight of the U.S. Environmental Protection Agency (U.S. EPA), in consultation with the DEQ. The proposed License contains continuing corrective action requirements for these off-site areas, as well as for on-site releases at the Midland Plant, and requires the implementation of corrective measures if new releases are found.

Although the DEQ believes it has done a thorough job of reviewing the License applications, the agency is seeking public input on the issuance of the License. Section V of this Fact Sheet describes the public participation process.

II. INTRODUCTION

Part 111 of Act 451 regulates the management of hazardous waste from generation to disposal. Likewise, the federal Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), regulates hazardous waste management nationwide.

Both Part 111 and the RCRA establish a permit system governing the treatment, storage, and disposal of hazardous wastes. The RCRA allows states to obtain authorization to issue a state hazardous waste operating license in lieu of a federal permit. Effective November 5, 2013, the State of Michigan amended the administrative rules promulgated pursuant to Part 111 to be equivalent to those under the RCRA and applied to the U.S. EPA for authorization to administer all portions of the RCRA Program except for some of those under HSWA.

III. DESCRIPTION OF THE FACILITIES

Dow operates hazardous waste treatment, storage, and disposal facilities at the Michigan Operations, Midland Plant at 1790 Building, Washington Street, in Midland, Michigan, and Salzburg Landfill at 2314 West Salzburg Road in Midland, Michigan.

A. Site Descriptions and Prior Licensing

MIDLAND PLANT

The Midland Plant is an industrial manufacturing and research site comprising approximately 1,900 acres, part of which is used for hazardous waste management. The company stores a wide variety of hazardous wastes and compatible non-hazardous wastes generated from the manufacturing of plastics, agricultural chemicals, organic chemicals, inorganic chemicals, and the associated research and development activities for the manufacture of these products.

At the Midland Plant, hazardous wastes are stored in containers and tanks prior to incineration on-site or transportation off-site for treatment or disposal. Many of the hazardous waste management units described in the next section are located on a portion of the Midland Plant where wastes were historically disposed prior to the enactment of the hazardous waste program. Hazardous wastes are also treated on-site at Dow's wastewater treatment plant (WWTP). Since the WWTP has a National Pollutant Discharge Elimination System permit, the treatment conducted in tanks is subject to the wastewater treatment unit exemption pursuant to R 299.9503(1)(f) and, therefore, is not required to be licensed. However, the final (tertiary) treatment that is conducted in the series of surface impoundments collectively known as the Tertiary Pond, is subject to regulation under the hazardous waste program. The locations of the Midland Plant hazardous waste management units described below are shown on the RCRA Part A Facility Map in Attachment 2 to this Fact Sheet.

Midland Plant Prior Licensing. Currently, the container storage areas, tank storage/treatment areas, Tertiary Pond, closed surface impoundments, and 32 Incinerator are regulated under a License that was issued on June 12, 2003, as modified. That License expired on June 12, 2013; however, the company submitted a timely reapplication and has, therefore, been allowed to continue operating these units under the conditions of the License referenced above until the new operating license is issued. This extension is allowed by 1969 PA 306, as amended, under the Michigan Administrative Procedures Act.

SALZBURG LANDFILL

The 152-acre site for the Salzburg Landfill facility is less than a mile from the Midland Plant, southwest of the intersection of Waldo and Salzburg Roads in Section 35, T14N, R2E. The general geographic location of the site, site boundaries, topography, buildings, and support facilities are shown in the Salzburg Landfill Site Location Plan and topographic map in Attachment 2 to this Fact Sheet. Also contained in Attachment 2 is a drawing showing the landfill facility development and future capping plan
. The landfill is designed and used mainly for disposal of hazardous and nonhazardous waste from the Midland Plant.

Wastes are transported to the landfill site in trucks and are not accepted for landfilling unless the wastes are placed in closed containers or otherwise totally contained or covered during transportation. No treatment or storage of hazardous waste occurs at the landfill. The fenced and gated landfill facility consists of closed and active waste disposal cells; paved roads; buildings that contain a vehicle wash area, spare parts, utilities, lunch room, locker room, and

office; soil and equipment stockpile areas; perimeter screening berms; and environmental monitoring equipment. The types of waste disposed at the landfill consist primarily of incinerator ash, contaminated soil, dewatered sludges, asbestos, remediation materials, corrective action management unit eligible wastes, debris, and demolition rubble.

All wastes placed in the landfill are overlaid with daily cover by the end of the day. Traffic routes around the cells are paved in order to minimize the potential for airborne particulates to move beyond the facility fence line. At the time the landfill was issued its first License, the capacity of the landfill was estimated to last until the year 2017. Due to waste minimization efforts, Dow currently estimates that the landfill will have original capacity through the year 2062.

The License authorizes the continued operation of the landfill and related appurtenances (piping, pumps, operation and maintenance buildings, etc.). Cells 1-19 and Cells 38-43 have been filled with waste and subsequently closed. During their operation, solid waste Cells 38-43 were permitted pursuant to Part 115, Solid Waste Management, of Act 451. Since those cells were closed, compatible solid wastes have been co-disposed with hazardous wastes and regulated under Part 111. However, a Part 115 perpetual care fund is required to be maintained for Cells 38-43 for a period of 30 years after final closure of the landfill in addition to the financial assurance requirements applicable pursuant to Part 111. Also, certain Part 115 groundwater monitoring program requirements for the closed solid waste cells have been meshed with those applicable to the landfill under Part 111. The table below summarizes the closed cells of the landfill.

Cell Designation	Description/Year Closed	Approximate Cap Acreage
Cells 1-2	Closed hazardous/solid waste cells/1984	1.9
Cells 3-5	Closed hazardous waste cells/1984	2.2
Cells 6-8	Closed hazardous waste cells/1986	1.7
Cells 9-10	Closed hazardous waste cells/1986	1.7
Cells 11-12	Closed hazardous waste cells/1986	2.5
Cells 13-14	Closed hazardous waste cells/1988	3.2
Cells 15-16	Closed hazardous waste cells/1991	3.5
Cells 17-19	Closed hazardous waste cells/2005	6.1
Cells 38-39	Closed solid waste cells/1988	4
Cells 40-43	Closed solid waste cells/2005	9.4

Cells 20-22 are the currently active landfill cells and they are expected to be filled in 2015 and capped in 2016. They are used for both hazardous and solid waste disposal, are 7.2 acres in size, and have been in use since 2004. Dow has certified that the next set of cells, Phase 1 of Cells 23-28 (Cells 23-26), with a size of 8.4 acres, was constructed in accordance with the approved plans and specifications and the DEQ approved these cells for use in May 2015. These cells will start being used for hazardous and solid waste disposal during mid-2015. Cells 20-22 and Cells 23-26 will be in active use concurrently, based on site operational needs.

Site-specific Land Disposal Restrictions (LDR) Treatability Variance. Under the U.S. EPA's LDR program created by Congress in 1984, technology-based treatment standards for toxic constituents must be met (e.g., by incineration or other treatment) before hazardous waste can be placed in a landfill. These standards were devised to minimize short- and long-term threats to human health and the environment and were phased in between 1986 and 2000. All hazardous wastes disposed at the landfill are required to meet the LDRs under Title 40 of the

federal Code of Regulations (CFR), Part 268, unless they qualify for the Dow site-specific LDR treatability variance that was approved by the DEQ on July 2, 2008. The 2008 Variance is applicable to contaminated soils, including those contaminated with dioxins and furans or containing listed hazardous waste generated during corrective action or as a result of upgrade or maintenance of corrective action management systems, including Dow's Michigan Operations Revetment Groundwater Interception System (RGIS). Although the 2008 Variance remains in effect until 2018, it was agreed by the DEQ that as part of the License renewal process, Dow could submit a request for the extension of the 2008 Variance as part of the Waste Analysis Plan and that the DEQ would consider syncing the term of the Revised Variance with the term of the License for ease of administration. As part of the Revised Variance extension request, Dow has requested that the Revised Variance be modified to include the non-routine management of Tertiary Pond Solids (solids that have accumulated in and subsequently been removed from the Pentagonal, Rectangular or Main Pond) as a waste stream that qualifies for a variance from the applicable treatment standard under 40 CFR 268.44, if managed in compliance with the conditions of the Revised Variance.

Salzburg Landfill Prior Licensing. Currently, the Salzburg Landfill is regulated under a License that was issued on March 18, 2009, as amended, that does not expire until March 18, 2019. However, as described in Part I of this Fact Sheet, the DEQ is now proposing to sync the License issuance dates of the Midland Plant and Salzburg Landfill by issuing a merged License that covers both facilities. This is expected to result in a more efficient process with an overall reduction in the length of time that it takes to review and reissue future Licenses. Also, since the term of the Salzburg Landfill 2009 License has not yet expired, the existing License conditions and Attachments have been carried over into the draft merged License with only fairly minor updating.

B. Facility-Specific Conditions Related to Facility Design and Construction

Dow operates several hazardous waste treatment, storage, and disposal units for wastes generated at the Midland facility, other Dow sites, Dow subsidiaries and joint ventures, on-site and off-site non-Dow facilities (formerly Dow, that have or will have a strategic business relationship with Dow, or that generate waste with heating value that can be used to reduce incinerator fuel consumption), and small quantities of waste managed as a "public service". Hazardous wastes managed at the facility generally include:

- Incinerator ash
- WWTP solids
- Contaminated soils
- Waste solvents
- Characteristic and listed wastes
- Off-specification products
- Small quantities of chemicals (lab packs)

The allowable hazardous waste types for each unit are listed in Attachment 3 to this Fact Sheet, which is Attachment 10 to the License. The wastes in the INCIN TANK FARM STORAGE column of the table are allowed for both 703 Tank Farm storage and incineration.

Part III - Container Storage Conditions for Midland Plant. The License allows the storage of a total volume of 838,685 gallons of hazardous waste in containers in a number of container storage areas as shown in the table below:

Container Storage Areas	Container Types	Storage Design Capacity
Waste Storage Area I (1143 Building)	Packs, Tanker Trucks, Isotainers, Roll-on/Roll-off Transport Boxes, etc.	443,685 gallons
32 Pack Room	Packs and Drums	133,250 gallons
830 Building (Overflow from 32 Pack Room)	Packs and Drums	125,000 gallons (no more than 100,000 gallons liquid waste)
32 Incinerator Offload/Storage Spots		
LS-2010 (Spot 1)	Dempsters Offload	750 gallons
LS-2020 (Spot 2)	Dempsters Offload	750 gallons
LS-2030 (Spot 3)	Dinos Offload	2,500 gallons
LS-2040 (Spot 4)	Dinos Offload	2,500 gallons
LS-2050 (Spot 5)	Tanker Trucks/Isotainers Offload	7,000 gallons
LS-2060 (Spot 6)	Tanker Trucks/Isotainers Offload	7,000 gallons
LS-2070 (Spot 7)	Tanker Trucks/Isotainers Offload	7,000 gallons
LS-2080 (Spot 8)	Tanker Trucks/Isotainers Offload	7,000 gallons
LS-2090 (Spot 9)	Tanker Trucks/Isotainers Offload	7,000 gallons
LS-2100 (Spot 10)	Tanker Trucks/Isotainers Storage	7,000 gallons
703 Tank Farm Offload/Storage Spots		
LS-1202/2E (703 Spot 2)	Dempsters Offload	750 gallons
LS-1203/3E (703 Spot 3)	Dinos Storage	2,500 gallons
SS-5E* (703 Spot 5)	Tanker Trucks/Isotainers Storage	7,000 gallons
SS-6E* (703 Spot 6)	Tanker Trucks/Isotainers Storage	7,000 gallons
SS-7E* (703 Spot 7)	Tanker Trucks/Isotainers Storage	6,000 gallons
SS-8E* (703 Spot 8)	Tanker Trucks/Isotainers Storage	6,000 gallons
LS-1213* (830 Spot 13)	Tanker Trucks/Isotainers Storage	7,000 gallons
LS-1214* (830 Spot 14)	Tanker Trucks/Isotainers Storage	7,000 gallons
LS-101/4E* (703 Spot 4)	Tanker Trucks/Isotainers Offload	7,000 gallons
Rail Car Offloading to 32 Incinerator and Transferring Materials to/from Containers in 703 Tank Farm Spots and 830 Spots Marked Above with Asterisk (*)		
LS-1215 and LS-1216 (Spots 15 and 16)	Rail Cars	38,000 gallons

Conditions for the operation of all of Dow's container storage areas (that were previously covered under two separate Parts of the License) have been consolidated into Part III of the draft License. Waste Storage Area I is an approximately 53,000 square feet outdoor container storage area that includes a 4,200 square feet pole building (1143 Building). The 830 Building and 32 Building are roofed container storage areas and approximately 8,730 and 8,800 square feet in size, respectively. The incinerator unloading spots and rail car unloading spots are not roofed. All of the container storage areas are constructed with concrete floors and dikes to provide secondary containment. The dempsters, dinos, and tanker truck trailers referenced above are portable larger size containers. Some of these portable containers are unloaded into the incinerator storage tanks referenced in the next section of this Fact Sheet and others are used for the direct burning of waste in the incinerator.

Under this License, the DEQ is authorizing Dow to conduct waste transloading (i.e., transferring of waste from one container to another, such as tanker truck to rail car or vice versa) using a new transfer header system between existing container storage areas (e.g., the 703 Tank Farm Spots and the Rail Car Spots), as noted by the asterisks in the above table, to increase flexibility in operations.

The License contains requirements for the safe storage (e.g., stacking, labeling, appropriate aisle space) of containerized waste, including special requirements for the management of ignitable, reactive, and incompatible wastes, and maintenance of containment systems to prevent releases to the environment in the event of a spill or leakage. Any precipitation, leaks, and spills collect within the concrete secondary containment systems and must be removed and properly managed in a timely manner.

Part IV - Tank System Storage and Treatment Conditions for Midland Plant. The License allows the storage and treatment of hazardous waste in tanks as shown in the table below:

Storage/Treatment Tank Systems	Storage Design Capacity	Treatment Design Capacity
1163 Building	1,800 cubic yards or 360,000 gallons	1,950 cubic yards/day or 400,000 gallons/day
33 Building	900 cubic yards or 181,800 gallons	1,950 cubic yards/day or 400,000 gallons/day
TOTAL	541,800 gallons	3,900 cubic yards/day or 800,000 gallons/day

703 Tank Farm Storage Tank Systems	Storage Design Capacity
V-101	10,150 gallons
V-301	18,700 gallons
V-302	18,700 gallons
V-303	18,700 gallons
V-401	18,700 gallons
V-402	15,900 gallons
V-403	18,700 gallons
V-404	18,700 gallons
V-601	7,000 gallons
V-701	7,000 gallons
TOTAL	152,250 gallons

Conditions for the operation of all of Dow's storage and treatment tanks (that were previously covered under two separate Parts of the License) have been consolidated into Part IV of the draft License. The 1163 and 33 Building tank systems are designed to store bulk solids and sludges (e.g., incinerator ash and wastewater treatment plant solids), rather than liquid wastes, with the wastes being placed and removed using dump trucks and front-end loaders. Treatment primarily consists of gravity dewatering of the bulk solids and sludges prior to disposal.

The 1163 and 33 Building tank systems are designed in a manner that does not accumulate precipitation or run-on within the tank systems. These tank systems are roofed and constructed with concrete floors and dikes to provide secondary containment. The sloped floors include trenches that gravity drain leachate from the dewatering treatment process and/or truck wash water to Dow's WWTP.

The 703 Tank Farm (located near the former 703 Incinerator) includes 10 above-ground, vertical steel tanks. Seven of these tanks are used to store organic liquid wastes prior to incineration; one is used to store water waste; and two are used to collect drainage from unloading spots. The tanks are located in a secondary containment area that is constructed with concrete floors and dikes to contain leaks, spills, and accumulated precipitation. Accumulated liquids are required to be removed and properly managed within 24 hours of detection.

The License contains conditions for the operation, maintenance, and assessment of all of the tank systems referenced above and special requirements for the management of ignitable, reactive, and incompatible wastes.

Part V - Incinerator Treatment Conditions for Midland Plant. The 32 incinerator has a thermal output capacity of 130 million BTUs per hour. It is regulated under the Air Quality Division (AQD) Renewable Operating Permit Number MI-ROP-A4033-2011e, effective April 11, 2011, and any subsequent revisions to or reissuances of that permit (ROP), pursuant to the 40 CFR Part 63, Subpart EEE National Emission Standards for Hazardous Air Pollutants (NESHAPs) from Hazardous Waste Combustors. The License requires compliance with the ROP, including periodic comprehensive performance testing to demonstrate compliance with emission standards and operating parameters, operation in accordance with the Notification of Compliance, and the startup, shutdown, and malfunction plan. The License also includes a provision that if the DEQ concludes that compliance with 40 CFR Part 63, Subpart EEE alone may not be protective of human health or the environment, Dow may be required to provide additional information or assessments (including risks via direct and indirect exposure pathways) to determine if additional controls are necessary to ensure protection of human health and the environment.

In addition, the License requires compliance with the general facility standards for hazardous waste facilities (e.g., waste analysis, inspections, personnel training, contingency plan, closure/post closure).

Part VI - Surface Impoundments (Tertiary Pond) Storage and Treatment Conditions for Midland Plant. The License includes conditions necessary for the final treatment of secondary effluent from Dow's WWTP in a hazardous waste surface impoundment prior to discharge to the Tittabawassee River. The Tertiary Pond consists of three ponds in series that provide thermal equalization, surge capacity, aeration, Total Dissolved Solids management, and other

processes authorized in Dow's National Pollutant Discharge Elimination System permit. The storage design capacities for the individual ponds are shown in the table below.

Tertiary Pond Surface Impoundments	Surface Area	Capacity
Pentagonal	7.5 acres	33,000,000 gallons
Rectangular	13 acres	50,000,000 gallons
Main	182 acres	700,000,000 gallons
TOTAL	202.5 acres	783,000,000 gallons

The Tertiary Pond is authorized to treat no more than a total volume of 50,000,000 gallons per day in accordance with the waiver under RCRA from meeting the minimum technology requirements for surface impoundments in 40 CFR 264 Subpart K. The U.S. EPA approved the waiver in the Determination Regarding Minimum Technology Requirements Pursuant to Section 3005(j)(3), dated October 6, 1987 (Determination). In 1991, Dow was required to install a Tertiary Pond RGIS to ensure that hazardous constituents do not discharge to groundwater/surface water. This replaced the requirement to comply with the alternate concentration limits for groundwater listed in the Determination. The remainder of the waiver continues in effect. The License also includes requirements for operating and maintaining the Tertiary Pond to prevent problems such as overtopping and dike structural failure.

In addition, requirements for the operation and environmental monitoring of the Tertiary Pond, including the Tertiary Pond RGIS, are included in Part IX, Environmental Monitoring Conditions for Midland Plant, of the License.

Part VII – Post Closure Care Conditions for Closed Units for Midland Plant. Conditions for the post closure care (e.g., environmental monitoring, inspections, maintenance, site security, post closure use of the property) are included in this part of the License for the following hazardous waste surface impoundment that was closed with waste in place:

Closed Unit	Closed Unit Process Design Capacities and General Description of Wastes Managed
Sludge Dewatering Facility (SDF) Certified Closed January 29, 1990	136,000,000 gallons Wastewater Treatment Plant Solids; tanker truck flushings; and sludges from the closure of the Diversion Basin and Open Wastewater Conduits

Requirements for post closure environmental monitoring of the SDF are included under Part IX, Environmental Monitoring Conditions for Midland Plant, of the License.

The closed hazardous waste surface impoundments in the table below were managed as post closure units in the Midland Plant 2003 License, but since they are located on a portion of the Midland Plant where wastes were historically disposed prior to the enactment of the hazardous waste program (that is now subject to on-site corrective action), the DEQ intends to formally change the status of these units from post closure units to waste management units (WMUs) subject to the requirements of Part XI, Corrective Action Conditions for the Midland Plant and Salzburg Landfill, upon reissuance of the License.

Closed Units Previously Managed as Post Closure Units; Becoming Subject to Corrective Action Upon License Reissuance	Closed Unit Process Design Capacities and General Description of Wastes Managed
Diversion Basin Certified Closed March 8, 1989	37,000,000 gallons Diverted untreated waste water and manufacturing complex surface run-off
Open Wastewater Conduits Certified Closed December 27, 1988	
Conduit A	50,000 gallons General influent wastewater
Conduit B	310,000 gallons Phenolic treatment system influent wastewater
Conduit C-1	1,000,000 gallons General influent wastewater
Conduit C-2	90,000 gallons Diverted primary wastewater
Conduit C-3	50,000 gallons Secondary treated wastewater

Part VIII – Landfill Disposal Conditions for Salzburg Landfill. This part of the License specifies the design capacity of 3,090,000 cubic yards of the landfill and references the drawings that show the areal extent of the landfill overall and the two sets of currently active cells. As described in Section III.A. of this Fact Sheet, since the term of the Salzburg Landfill 2009 License has not yet expired, the existing License conditions and Attachments have been carried over into the draft merged License with only fairly minor updating. This updating includes adding the italicized requirements below into Condition VIII.D., Design and Run-On, Runoff, and Contaminant Control, for consistency with the OWMRP's standard License conditions for hazardous waste landfills:

1. Liner system construction, design, and maintenance.
2. *Certification requirements for newly constructed cells.*
3. *Post construction documentation requirements for newly constructed cells.*
4. *Protection of uncovered portions of constructed liners, leak detection systems, and leachate collection systems.*
5. *Inspection of any portions of the natural or recompacted clay not protected, for more than 90 days, from weathering and the leachate collection system not protected from clogging and weathering.*
6. *Recertification of repaired areas.*
7. Operation and maintenance of stormwater run-on control systems.
8. Operation and maintenance of stormwater run-off control systems.
9. Management of collection and holding facilities associated with run-on and run-off control systems
10. Cover to control dispersal of particulate matter.
11. Operation and maintenance of a vehicle wash facility.
12. Dust and trackout control.
13. Operation and maintenance of a leachate collection and removal system.

Waste placement, closure/post closure and annual reporting requirements remain consistent with the Salzburg Landfill 2009 License.

The DEQ is proposing to eliminate Salzburg Landfill 2009 License Condition II.T., Site Review Board Limitation on Waste Acceptance, which carried over a condition imposed by the Site Review Board in the 1981 Salzburg Landfill construction permit and 1982 Salzburg Landfill License that prohibits Dow from accepting hazardous waste at the Salzburg Landfill facility between the hours of 3:00 p.m. and 5:00 p.m on days when Midland Public Schools are in session or during times when hazardous driving conditions exist (i.e., when a hazard warning for the county of Midland has been issued by the Midland County Sheriff's Office).

The rationale for the elimination of this condition is as follows:

1. At the time the 1981 construction permit for the landfill was issued, the Site Review Board (SRB) was the final decision-maker on whether to grant or deny construction permits and whether to impose special conditions on the operation of new hazardous waste management facilities. As a result of statutory changes, the SRB was abolished and the authority for such decision-making under Part 111 has been delegated to the OWMRP Chief.

2. Having a limitation on waste acceptance in the afternoon, but not in the morning, does not make sense if the limitation was based upon overlap with the Midland Plant shift change traffic and/or school bus traffic on Saginaw Road.

3. Typically, about 12 truckloads of wastes are accepted at the Salzburg Landfill one day a week, except during times when remediation projects are being conducted. Maintaining the waste acceptance limitation could negatively impact Dow's ability to complete remediations in a timely manner. Since the Salzburg Landfill was originally permitted, no transportation-related accidents or releases while hauling hazardous waste to the landfill are known to have occurred. In addition, the major hazardous waste currently hauled to the landfill is incinerator ash, which has much lower contaminant levels than wastes that were able to be landfilled prior to the effective dates of the Land Disposal Restrictions that were phased in between 1986 and 2000.

4. Midland Public Schools' Transportation Department has agreed to change a school bus route so that it does not overlap with Dow's hazardous waste hauling route from the Midland Plant site to the Salzburg Landfill on Saginaw Road. The DEQ has included draft License Condition VIII.H. that requires Dow to reverify that there are no bus routes that overlap with the landfill haul route about every five years (i.e., at the time of the land disposal facility five-year review and at the time of reapplication).

5. Dow has updated its annual Personnel Training Program for the Salzburg Landfill to teach drivers that transport to the landfill is not allowed during hazardous driving conditions caused by severe weather (e.g., heavy snow, ice, lightning, etc.), consistent with the requirement in Salzburg Landfill 2009 License Condition II.T.

The DEQ will consider any public comment received on this matter in making its final decision.

C. Other Facility-Specific Operating License Conditions

Other facility-specific conditions are included in the following parts of the License:

Part IX - Environmental Monitoring Conditions for Midland Plant

Part IX of the draft License contains the environmental monitoring conditions for the Midland Plant. This part of the License and the associated Midland Plant Sampling and Analysis Plan (MP SAP, Attachment 15 of the draft License) was significantly updated on May 30, 2013, as part of the Amendment 14 major modification to the Midland Plant 2003 License.

The updates from Amendment 14 have been carried over into the draft License and include streamlining the License language in Part IX, Environmental Monitoring Conditions; moving License text references to specific monitoring wells/points and common sampling methodologies to the MP SAP; adding several groundwater corrective action monitoring programs not previously included in the License; changing monitoring requirements for certain programs based on knowledge and data developed during the previous 10 years of environmental monitoring; and clarifying when minor or major License modifications are required for environmental monitoring program changes.

The Midland Plant currently has 24 detection and corrective action environmental monitoring programs. Detection monitoring programs are focused on detecting any releases into the environment (e.g., the Glacial Till and Regional Aquifer Detection Groundwater Monitoring Program). Corrective action monitoring programs are focused on tracking and monitoring the effectiveness of cleanup activities on the Midland Plant (e.g., East-Side Main Plant RGIS Monitoring Program). The individual monitoring programs, monitoring program types, monitoring program location in Part IX, and general comments on the individual monitoring programs are identified in the table below.

A significant change from the May 30, 2013, License amendment is the addition of a pilot program for more efficient reporting and review of the data that is collected under each of these monitoring programs. Condition IX.A.4. allows the licensee to propose the reporting of environmental monitoring data using an Environmental Monitoring Information System (EMIS) and sets forth the conditions under which the EMIS could replace the methodology that is currently used to report environmental monitoring data to the DEQ. In order to replace the existing environmental reporting system, the EMIS would be piloted for a minimum of two calendar quarters in parallel with the conventional reporting system and must demonstrate to the OWMRP that the EMIS is as good or better than the existing data reporting process. If successful, the EMIS will make environmental data collected at the Midland Plant accessible more quickly and efficiently to the DEQ and the general public, facilitate review and analysis of the data, and reduce report production and file/storage costs.

License Condition and Program Type	Environmental Monitoring Program	Comment
IX.C.1. Detection	Glacial Till and Regional Aquifer Detection Groundwater Monitoring Program	Chemical and hydraulic monitoring program to monitor deep groundwater.

License Condition and Program Type	Environmental Monitoring Program	Comment
IX.D.2. Corrective Action	East-Side Main Plant RGIS Monitoring Program	Real-time/continuous hydraulic monitoring to ensure performance of groundwater collection system to protect Tittabawassee River. Periodic chemical monitoring.
IX.D.3. Corrective Action	West-Side and Tertiary Pond RGIS Monitoring Program	Hydraulic monitoring to ensure performance of groundwater collection system to protect shallow groundwater/Bullock Creek. Periodic chemical monitoring.
IX.D.4. Corrective Action	6Pond Collection Tile Monitoring Program	Hydraulic monitoring to ensure performance of groundwater collection system to protect shallow groundwater. Periodic chemical monitoring.
IX.D.5. Corrective Action	River Corrective Action Management Program	Real-time/continuous hydraulic monitoring to ensure performance of groundwater collection system to protect Tittabawassee River. Periodic chemical monitoring.
IX.D.6. Corrective Action	Seventh Street Purge Well Area Groundwater Monitoring Program	Formerly known as Six Purge Wells Program. Hydraulic monitoring to ensure performance of groundwater collection system to protect Tittabawassee River. Periodic chemical monitoring.
IX.D.7. Corrective Action	Ash Pond Area Groundwater Monitoring Program	Groundwater chemical detection monitoring program along Tittabawassee River bank to determine need for corrective action.
IX.D.8. Corrective Action	Former 47 Building Surface Water Protection Monitoring Program	Hydraulic and chemical monitoring programs to determine need for additional corrective action.
IX.E.1. Corrective Action	Northeast Perimeter Groundwater Monitoring Program	Groundwater corrective action (detection, compliance, and plume sentinel) monitoring programs.
IX.E.2. Corrective Action	West-Side Shallow Groundwater Monitoring Program	Groundwater corrective action (compliance) monitoring program to determine need for additional corrective action.
IX.E.3. Corrective Action	Facility Shallow Groundwater Monitoring Program	Hydraulic monitoring program to verify shallow groundwater is being maintained on-site. Chemical monitoring if offsite flow is identified.
IX.E.4. Corrective Action	South Saginaw Road Tile Performance Monitoring Program	Hydraulic monitoring program to verify shallow groundwater is being maintained on-site.
IX.F.1. Detection	Sludge Dewatering Facility Monitoring Program	Chemical leak dectection and groundwater monitoring program. Hydraulic monitoring program. Periodic leachate characterization.
IX.G.1. Corrective Action	Poseyville Landfill Monitoring Program	Groundwater corrective action (detection, compliance, and plume sentinel) monitoring programs. Hydraulic monitoring programs. Purge well chemical monitoring.

License Condition and Program Type	Environmental Monitoring Program	Comment
IX.G.2. Corrective Action	LEL I Site Monitoring Program	Hydraulic monitoring program.
IX.G.3. Corrective Action	LEL II Site Monitoring Program	Hydraulic monitoring program.
IX.G.4. Corrective Action	LEL III Site Monitoring Program	Hydraulic monitoring program.
IX.G.5. Corrective Action	1925 Landfill Monitoring Program	Hydraulic monitoring program.
IX.H.1. Corrective Action	Tertiary Pond Groundwater Recovery Monitoring Program	Chemical and hydraulic monitoring to track groundwater quality to determine if additional corrective action is necessary.
IX.H.2. Corrective Action	Tertiary Pond Slurry Wall Hydraulic Monitoring Program	Hydraulic monitoring to verify integrity of T-Pond Slurry Wall.
IX.I.1. Corrective Action	Overlook Park Groundwater Monitoring Program	Chemical and hydraulic monitoring program to track recovery of offsite groundwater.
IX.I.2. Corrective Action	US-10 Tank Farm Monitoring Program	Chemical monitoring program to track corrective action progress.
IX.J. Detection	Ambient Air Monitoring Program	Monitoring of ambient air at the perimeter of the facility to monitor emissions as described in Attachment 16 of the draft License.
IX.K. Detection	Soil Monitoring Program	Monitoring program to verify dioxins in Midland Plant soils are being managed effectively to prevent off-site migration via dust/vehicle trackout.

Due to the technical nature of the environmental monitoring programs conducted at the Midland Plant, please refer any questions about these monitoring programs to the OWMRP project geologist, Mr. Al Taylor. He may be contacted by telephone at 517-614-7335 or by e-mail at taylora@michigan.gov.

Part X - Environmental Monitoring Conditions for Salzburg Landfill

Part X of the draft License contains the environmental monitoring conditions for the Salzburg Landfill. This part of the License and the associated Salzburg Landfill Sampling and Analysis Plan (SLF SAP, Attachment 17 of the draft License) is being carried over into the draft License from the Salzburg Landfill 2009 License with few changes other than minor updating of the SLF SAP and soil monitoring program to be consistent with the Midland Plant soil monitoring program.

The Salzburg Landfill currently has six detection monitoring programs. Detection monitoring programs are focused on detecting any new releases into the environment. The individual monitoring programs, monitoring program types, monitoring program location in Part X, and general comments on the individual monitoring programs are identified in the table below.

License Condition and Program Type	Environmental Monitoring Program	Comment
X.A. Detection Monitoring	Groundwater Monitoring Program	Chemical and hydraulic monitoring program of monitoring wells surrounding the landfill to detect a potential release to groundwater.
X.B. Detection Monitoring	Ambient Air Monitoring Program	Monitoring of ambient air at the perimeter of the facility to monitor emissions from the landfill.
X.C. Detection Monitoring	Soil Monitoring Program	Chemical monitoring of soils at three locations to detect a potential release of dioxins from the landfill.
X.D. Detection Monitoring	Surface Water Monitoring Program	Chemical monitoring of surface water at three locations to detect a potential release from the landfill.
X.E. Detection Monitoring	Leachate Monitoring Program	Chemical and volumetric monitoring of leachate from the landfill to document its composition and generation rate.
X.F. Detection Monitoring	Leak Detection System Monitoring Program	Chemical and volumetric monitoring of water from the leak detection system to detect a potential release through the primary liner of the landfill.

Due to the technical nature of the environmental monitoring programs conducted at the Salzburg Landfill, please refer any questions about these monitoring programs to the OWMRP project geologist, Mr. Joe Rogers. He may be contacted by telephone at 517-284-6569 or by e-mail at rogersj5@michigan.gov.

Part XI – Corrective Action Conditions for Midland Plant and Salzburg Landfill

This part of the draft License addresses Dow's corrective action obligations for historic releases of contaminants to the environment from both within the facility boundaries and beyond the facility boundaries. Waste Management Units (WMUs) and Areas of Concern (AOCs) are identified and the processes for identifying and managing past and potential future releases are spelled out. The Midland Plant has substantial on-site and off-site corrective action obligations due to historic waste management practices. There are no known releases from the Salzburg Landfill.

Condition XI.A. provides the general requirements for corrective action under the License.

Condition XI.B. addresses the requirements for corrective action beyond the Midland Plant facility boundary:

- Midland Area Soils. Condition XI.B.2. continues to address corrective action requirements for Midland Area Soils (MAS) for the cleanup of dioxins and reflects that the work approved by the DEQ for corrective action is substantively complete. The Remedial Action Plan/Corrective Measures Implementation (RAP/CMI) Report for MAS is currently under review and revision in preparation for public comment. Once the RAP/CMI Report is approved, it will be incorporated into and will become an enforceable

condition of the License.

- Other Off-site Areas Requiring Further Corrective Action. Condition XI.B.3. continues to address corrective action requirements for the Tittabawassee River Sediments, the Tittabawassee River Floodplain, the Saginaw River Sediments, the Saginaw River Floodplain, and Saginaw Bay. These areas are currently being addressed via a federal led action that is being taken pursuant to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as set forth in Condition XI.B.5. and is primarily focused on dioxin contamination. The DEQ provides technical oversight and support for this process. Once complete, the work conducted under CERCLA is intended to satisfy Dow's corrective action obligations under Part 111 and the License with respect to the areas identified in Condition XI.B.3.

Condition XI.C. identifies the waste management units (WMUs) and areas of concern (AOCs) at the Midland Plant and requires Dow to continue implementing on-site corrective measures in a phased manner. The WMUs and AOCs are listed in Table B2-1 of Corrective Action Information, Attachment 19 of the draft License, which is Attachment 4 to this Fact Sheet. The Midland Plant 2003 License employed a Compliance Schedule to track corrective action work at the Midland Plant WMUs and AOCs. Although significant corrective action progress was made using this approach, it was determined that it would be more efficient to use an "adaptive management" approach under the renewal License. This approach is called the Corrective Action Implementation Plan (CAIP) in the draft License. An adaptive management approach was used very successfully in the implementation of the MAS cleanup and both Dow and the DEQ agree that it is appropriate to leverage this methodology to continue to make progress on the remaining on-site corrective action issues.

The elements of the CAIP (Appendix G to Corrective Action Information, Attachment 19 of the draft License) are as follows:

- A prioritized inventory of the corrective action work that needs to be completed;
- A schedule that prioritizes and results in substantial completion of the on-site corrective action work by 2020;
- Yearly work plans that are developed and submitted by Dow to the DEQ in December of each calendar year for DEQ review and approval. The approved work plans are enforceable in accordance with the conditions of the license;
- Implementation of the yearly work plans with frequent working meetings between Dow and the DEQ.
- Annual updating of the work plans based on progress and overall schedule; and
- Provisions to use the standard corrective action process as provided in the License if the CAIP process is not working as planned.

Conditions XI.D. and XI.E. identify the WMUs for the Salzburg Landfill and the processes to address releases from the Salzburg Landfill if releases should occur in the future.

Condition XI.F. addresses the processes Dow is required to follow if a new WMU or AOC is identified at the Midland Plant or Salzburg Landfill.

Condition XI.G. addresses dispute resolution for corrective action reviews.

Condition XI.H. addresses the corrective action investigation process.

Condition XI.I. addresses the process for any needed interim response activities.

Condition XI.J. addresses determinations of “no further action.”

Condition XI.K. addresses the process for conducting a Corrective Measure Study, if required by the DEQ.

Condition XI.L. addresses the Remedial Action Plan/Corrective Measures Implementation Plan process.

Condition XI.M. addresses the revised Site-Specific LDR Treatability Variance for contaminated media generated during corrective action activities, the upgrade and maintenance of corrective action systems, and/or maintenance of the Tertiary Pond. The Material Subject to the Variance, which is hazardous waste according to the provisions of Part 111 of Act 451, is subject to the alternative treatment standards as specified in Appendix A3-3 of the Waste Analysis Plan, Attachment 1 of the draft License. Please refer to Section III.A. of this Fact Sheet for additional information on the Variance.

Condition XI.N. sets forth the requirements for designation of a Corrective Action Management Unit (CAMU) for implementation of response activities.

Condition XI.O. carries over Dow’s authorized designation of a CAMU, under a 2013 modification to the Midland Plant 2003 License, to submit detailed plans to the OWMRP for review and approval to construct and operate project-specific storage and treatment CAMUs, consistent with the proposed design in Appendix B, Staging Pile and Corrective Action Management Unit Design Information, of Attachment 19 of the draft License.

Condition XI.P. addresses the requirements to designate tanks or container storage units used for the treatment or storage of remediation wastes as Temporary Units for implementation of response activities.

Condition XI.Q. carries over Dow’s authorized designation of a single Staging Pile, under a 2009 modification to the Midland Plant 2003 License, to manage solid, nonflowing remediation waste, consistent with the proposed design in Appendix B of Attachment 19 of the draft License.

Condition XI.R. provides a summary schedule for the licensee to submit required corrective action documents.

Condition XI.S. addresses the requirements and locations for the retention of corrective action documents.

Condition XI.T. requires the licensee to implement the Worker Exposure Control Program, Appendix C of Attachment 19 of the draft License, and the process for future revisions to that program.

Condition XI.U. requires the implementation of source control activities to permanently and significantly reduce the volume, toxicity, and/or control the mobility of contaminants and hazardous substances in soil and groundwater at the facility.

Condition XI.V. addresses the DEQ's reservation of corrective action response activity and enforcement authority.

Condition XI.W. addresses the DEQ's reservation of corrective action response activity and enforcement authority with respect to the CERCLA Settlement Agreement for the Tittabawassee River Sediments, the Tittabawassee River Floodplain, the Saginaw River Sediments, the Saginaw River Floodplain, and Saginaw Bay.

IV. ENVIRONMENTAL IMPACT

A. Wastes Stored, Treated, and Disposed

As described in Section III.B. of this Fact Sheet, the hazardous wastes that can be stored, treated, and disposed by Dow in the licensed units are included in Attachment 10, List of Acceptable Waste Types for Management at the Dow Michigan Operations, Midland Plant & Salzburg Landfill Facilities, of the License, which is Attachment 3 to this Fact Sheet. Dow manages an extensive universe of hazardous wastes generated both on-site and off-site, as well as compatible non-hazardous wastes. On-site incineration is the primary means used by Dow to reduce the volume and toxicity of hazardous and non-hazardous wastes that it generates. Refer to the Contingency Plan for the Midland Plant and Salzburg Landfill, Attachment 4 of the License, for a description of the procedures that must be followed in the event that fires, explosions, or releases of hazardous waste or hazardous waste constituents to air, soil, or surface water occur which could threaten human health or the environment.

B. Environmental Monitoring

As described in Section III.C. of this Fact Sheet, Dow conducts extensive environmental monitoring to evaluate whether hazardous constituents from the regulated units (container storage areas, tank storage and treatment areas, incinerator, existing and closed surface impoundments, landfill and areas subject to corrective action) are unacceptably impacting the groundwater, surface water, soil, or ambient air.

V. PUBLIC PARTICIPATION

A. Public Comment Procedures

The purpose of public participation is to ensure that the interested public has knowledge of the DEQ proposed actions and that it has the opportunity to comment on those actions. In addition, the process ensures that the DEQ has the opportunity to benefit from any information the public might have relevant to the proposed actions. The public notice for this proposed licensing action was published in the Midland Daily News on June 29, 2015.

Comments may be submitted in writing to the addressee listed in Section V.C., below, and/or at the public hearing. The public comment procedures that will be followed are stated in R 299.9511 of the MAC and in 40 CFR §124.11. Comments are being solicited on the draft License from June 29, 2015, until August 28, 2015. Due to the proposed extension and revision of Dow's Land Disposal Restrictions Variance, the merging of Dow's two Licenses and the complexity of this licensing action, a 60-day public comment period is being held instead of a 45-day public comment period.

The DEQ has scheduled a public hearing regarding the draft License at the Bullock Creek High School Auditorium, 1420 South Badour, Midland, Michigan, at 7:00 p.m. on July 29, 2015.

After the close of the public comment period, the DEQ will determine whether there are any changes that need to be made to the draft License based on public comment and will decide whether to issue the License. Written comments submitted during the public comment period, and comments made at the public hearing, will be considered by the OWMRP Chief in the formulation of the final decision. Responses to written comments and comments made during the public hearing will be included in the record supporting the DEQ final decision. The DEQ final License decision will be communicated to the applicant, each person who submitted a written comment during the public comment period, and all persons on the facility mailing list.

B. Locations of Available Information

The administrative record for the draft License may be viewed at the DEQ, OWMRP, Constitution Hall, 4th Floor South, 525 West Allegan Street, Lansing, Michigan (contact Ms. Cheryl Howe at 517-284-6561). In addition, the draft License and Variance documents, including a Fact Sheet that summarizes this relicensing action, are available online at http://www.michigan.gov/deq (click on Waste, Hazardous and Liquid Industrial Waste, Hazardous and Liquid Industrial Waste Management, and Information); at the Reference Desk of the Grace A. Dow Memorial Library, 1710 West St. Andrews Street, Midland, Michigan (989-837-3449); and at the DEQ, Saginaw Bay District Office, 401 Ketchum Street, Suite B, Bay City, Michigan (contact Ms. Trisha Confer at 989-225-7968).

The locations for the public information and public hearing are accessible to disabled persons. Any person requiring specialized accommodations or assistance, such as an interpreter for the deaf or meeting materials in Braille, large print, or another format (e.g., audio, foreign language, etc.), should contact Ms. Cheryl Howe (see Section V.C., below, for contact information). The public hearing will be video recorded and available upon request and on the DEQ website (if size limitations permit).

C. Contact Person

Comments and requests regarding the draft License should be directed to Ms. Howe via e-mail at howec@michigan.gov or mailed to the address below:

Ms. Cheryl Howe
Office of Waste Management and Radiological Protection
Department of Environmental Quality
P.O. Box 30241
Lansing, Michigan 48909-7741

Written comments concerning the draft License should include the name and address of the writer, a concise statement of the basis for the comments, and the supporting relevant facts upon which the comments are based. Written comments must be postmarked no later than August 28, 2015.

ATTACHMENT 1

Hazardous Waste Compliance History

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)/PART 111 OF ACT 451
COMPLIANCE CHRONOLOGY
FOR
THE DOW CHEMICAL COMPANY

Michigan Operations, Midland Plant - MID 000 724 724
June 2015 to June 2003

06/09/2015	MDEQ compliance evaluation inspection – no violations identified.
12/22/2014	MDEQ focused compliance inspection – no violations identified.
09/30/2014	MDEQ final cover inspections– no violations identified.
09/23/2014	MDEQ compliance evaluation inspection – no violations identified.
08/21/2014	MDEQ focused compliance inspection – no violations identified.
03/27/2014	MDEQ compliance evaluation inspection – no violations identified.
09/23/2013	MDEQ compliance evaluation inspection – no violations identified.
06/04/2013	EPA/MDEQ compliance evaluation inspection – no violations identified.
03/14/2013	MDEQ compliance evaluation inspection – no violations identified.
09/28/2012	MDEQ final cover inspections– no violations identified.
09/28/2012	MDEQ operation and maintenance inspection – violations were identified and corrected.
09/06/2012	MDEQ compliance evaluation inspection – no violations identified.
03/29/2012	MDEQ compliance evaluation inspection – no violations identified.
09/20/2011	MDEQ final cover inspections– no violations identified.
09/07/2011	MDEQ compliance evaluation inspection – no violations identified.
09/07/2011	MDEQ final cover inspections– no violations identified.
03/11/2011	MDEQ compliance evaluation inspection – no violations identified.
09/14/2010	MDEQ compliance evaluation inspection – no violations identified.
03/16/2010	MDEQ compliance evaluation inspection – no violations identified.
01/15/2010	MDEQ final cover inspections– no violations identified.
09/28/2009	MDEQ final cover inspection – no violations identified.
09/23/2009	MDEQ compliance evaluation inspection – no violations identified.
09/02/2009	MDEQ corrective action oversight/offsite – no violations identified.
05/05/2009	MDEQ corrective action oversight/offsite – no violations identified.
03/24/2009	MDEQ sampling inspection/on-site groundwater – no violations identified.
03/19/2009	MDEQ compliance evaluation inspection – violations were identified and corrected.
09/16/2008	MDEQ compliance evaluation inspection – violations were identified and corrected.
07/29/2008	MDEQ sampling oversight/off-site soils – no violations identified.
05/28/2008	MDEQ sampling inspection/on-site soils – no violations identified.
05/01/2008	MDEQ corrective action oversight/offsite – no violations identified.
04/27/2008	MDEQ corrective action oversight/offsite – no violations identified.
04/16/2008	MDEQ corrective action oversight/offsite – no violations identified.
03/20/2008	MDEQ corrective action oversight/offsite – no violations identified.
03/19/2008	MDEQ corrective action oversight/offsite – no violations identified.
03/06/2008	MDEQ corrective action oversight/offsite – no violations identified.
01/17/2008	MDEQ corrective action oversight/offsite – no violations identified.
12/12/2007	MDEQ compliance evaluation inspection – violations were identified and corrected.
11/14/2007	MDEQ sampling oversight/off-site soils – no violations identified.
10/18/2007	MDEQ sampling inspection/soil boxes – no violations identified.
09/28/2007	MDEQ final cover inspections – no violations identified.
09/25/2007	MDEQ sampling oversight/off-site soils – no violations identified.
08/22/2007	MDEQ sampling oversight/off-site soils – no violations identified.
08/21/2007	MDEQ sampling oversight/off-site soils – no violations identified.

08/01/2007	MDEQ compliance evaluation inspection – no violations identified.
07/18/2007	MDEQ construction inspection – no violations identified.
07/12/2007	MDEQ construction inspection – no violations identified.
01/31/2007	MDEQ compliance evaluation inspection – no violations identified.
10/30/2006	MDEQ sampling inspection/onsite soils – no violations identified.
09/29/2006	MDEQ operation and maintenance inspection – no violations identified.
09/26/2006	MDEQ final cover inspection – no violations identified.
11/16/2005	MDEQ sampling inspection/on-site groundwater – no violations identified.
11/02/2005	MDEQ compliance evaluation inspection – no violations identified.
10/20/2005	MDEQ focused compliance inspection – no violations identified.
10/18/2005	EPA-NEIC* compliance evaluation inspection - violations were identified and corrected.
10/18/2005	MDEQ focused compliance inspection – no violations identified.
09/30/2005	MDEQ post closure cap inspection – no violations identified.
09/14/2005	MDEQ sampling inspection/on-site soils – no violations identified.
09/08/2005	MDEQ sampling inspection/soil box – no violation identified.
06/23/2005	MDEQ compliance evaluation inspection – no violations identified.
06/07/2005	MDEQ focused compliance inspection – no violations identified.
05/03/2005	MDEQ sampling inspection/on-site groundwater – no violations identified.
12/14/2004	MDEQ sampling inspection/on-site groundwater – no violations identified.
12/07/2004	MDEQ compliance evaluation inspection – no violations identified.
12/01/2004	MDEQ sampling inspection/off-site groundwater – no violations identified.
11/23/2004	MDEQ sampling inspection/off-site groundwater – no violations identified.
10/26/2004	MDEQ sampling inspection/soil boxes – no violations identified.
10/21/2004	MDEQ final cover inspections – no violations identified.
09/30/2004	MDEQ final cover inspections – no violations identified.
06/23/2004	MDEQ compliance evaluation inspection – no violations identified.
04/13/2004	MDEQ construction inspection – no violations identified.
12/17/2003	MDEQ compliance evaluation inspection – violations were identified and corrected.
11/13/2003	MDEQ final cover inspection – no violations identified.
06/26/2003	MDEQ compliance evaluation inspection – no violations identified.

*October 18, 2005 was Day One for the EPA-NEIC multi-media inspections, for which EPA was the lead agency. The EPA-NEIC conducted associated compliance evaluation inspections on the following additional dates: October 19, 25, 26, and 27, 2005; April 18, 19, 25 and 26, 2006; July 25, 2006; and August 1-2, 2006.

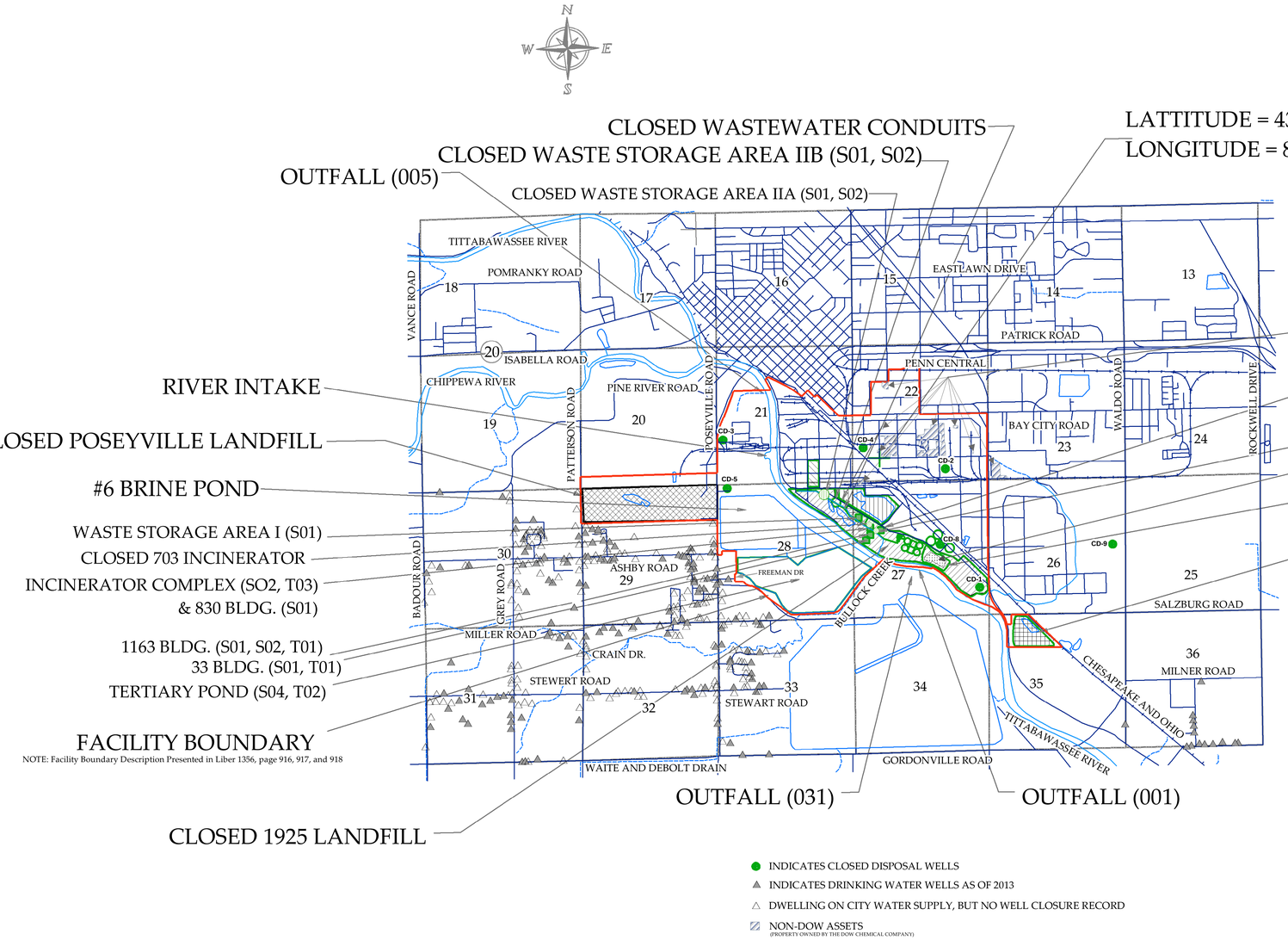
Note: The above chronology does not include *numerous off-site corrective action oversight inspections for Midland Area Soils and the Settlement Agreement site*. Some representative corrective action oversight inspections are included as examples.

Salzburg Landfill MID 980 617 435
June 2015 to March 2009

06/09/2015	MDEQ compliance evaluation inspection – no violations identified.
04/07/2015	MDEQ sampling inspection/leachate – no violations identified.
04/07/2015	MDEQ sampling inspection/groundwater – no violations identified.
03/11/2015	MDEQ operation and maintenance inspection – no violations identified.
03/11/2015	MDEQ sampling inspection/groundwater – no violations identified.
01/16/2015	MDEQ sampling inspection/leak detection system – no violations identified.
11/06/2014	MDEQ landfill construction inspection – no violations identified.
09/30/2014	MDEQ landfill construction inspection – no violations identified.
09/23/2014	MDEQ landfill construction inspection – no violations identified.
09/03/2014	MDEQ landfill construction inspection – no violations identified.
08/28/2014	MDEQ landfill construction inspection – no violations identified.
08/22/2014	MDEQ sampling inspection/groundwater/surface water – no violations identified.
08/05/2014	MDEQ sampling inspection/soil – no violations identified.
07/30/2014	MDEQ landfill construction inspection – no violations identified.
07/29/2014	MDEQ landfill construction inspection – no violations identified.
06/26/2014	MDEQ landfill construction inspection – no violations identified.
06/20/2014	MDEQ sampling inspection – no violations identified.
04/15/2014	MDEQ sampling inspection/leachate – no violations identified.
03/27/2014	MDEQ compliance evaluation inspection – no violations identified.
03/27/2014	MDEQ operation and maintenance inspection – no violations identified.
01/03/2014	MDEQ sampling inspection/groundwater – no violations identified.
09/23/2013	MDEQ compliance evaluation inspection – no violations identified.
07/30/2013	MDEQ sampling inspection/leak detection system – no violations identified.
04/03/2013	MDEQ sampling inspection/groundwater – no violations identified
03/14/2013	MDEQ compliance evaluation inspection – no violations identified.
03/12/2013	MDEQ operation and maintenance inspection – no violations identified.
12/14/2012	MDEQ final cover inspection – no violations identified.
10/26/2012	MDEQ sampling inspection/leachate – no violations identified.
09/06/2012	MDEQ compliance evaluation inspection – no violations identified.
06/28/2012	MDEQ sampling inspection/leak detection system – no violations identified.
06/01/2012	MDEQ sampling inspection/leak detection system – no violations identified.
03/29/2012	MDEQ compliance evaluation inspection – no violations identified.
02/27/2012	MDEQ operation and maintenance inspection – no violations identified.
09/07/2011	MDEQ compliance evaluation inspection – no violations identified.
03/23/2011	MDEQ operation and maintenance inspection – no violations identified.
03/11/2011	MDEQ compliance evaluation inspection – no violations identified.
09/28/2010	MDEQ compliance evaluation inspection – no violations identified.
05/21/2010	MDEQ operation and maintenance inspection – no violations identified.
03/16/2010	MDEQ compliance evaluation inspection – no violations identified.
01/13/2010	MDEQ final cover inspection – no violations identified.
09/23/2009	MDEQ compliance evaluation inspection – no violations identified.
07/17/2009	MDEQ sampling inspection/leak detection system – no violations identified.
06/22/2009	MDEQ sampling inspection/leachate – no violations identified.
05/20/2009	MDEQ operation and maintenance inspection – no violations identified.
03/19/2009	MDEQ compliance evaluation inspection – no violations identified.

ATTACHMENT 2

Facility Maps/Drawings



- INDICATES CLOSED DISPOSAL WELLS
- INDICATES DRINKING WATER WELLS AS OF 2013
- DWELLING ON CITY WATER SUPPLY, BUT NO WELL CLOSURE RECORD
- NON-DOW ASSETS (PROPERTY OWNED BY THE DOW CHEMICAL COMPANY)

THE DOW CHEMICAL CO.
MIDLAND MI. - FACILITY #MID 000724724

0 2,500 5,000 10,000
Feet

CLOSED HAZARDOUS WASTE MANAGEMENT UNITS

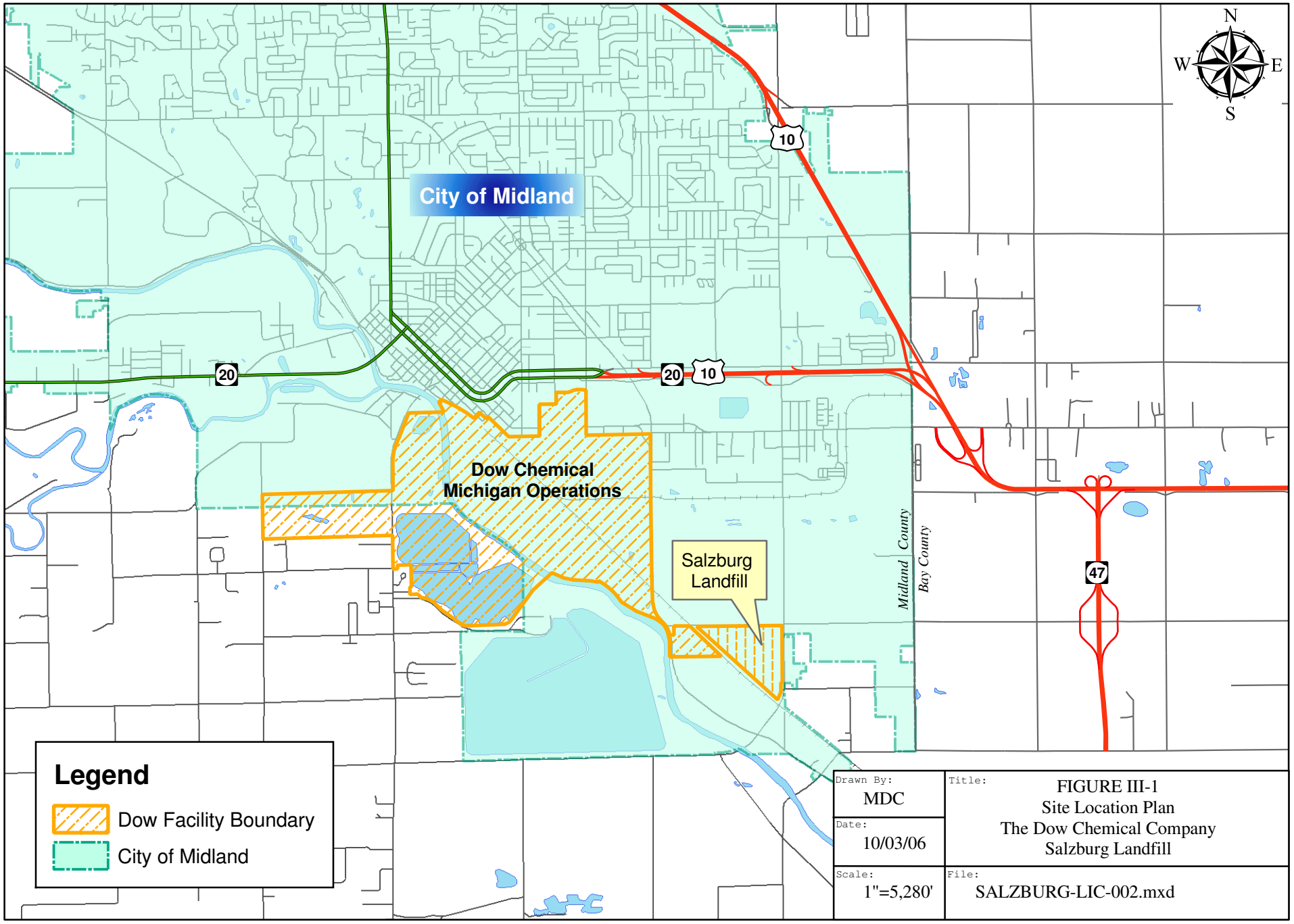
- SLUDGE DEWATERING FACILITY
- DIVERSION BASIN
- WASTEWATER CONDUITS
- 703 INCINERATOR
- 830 INCINERATOR
- WASTE STORAGE AREA IIA

CLOSED WASTE MANAGEMENT UNITS

- 1925 LANDFILL
- POSEYVILLE LANDFILL
- LEL I
- LEL II
- LEL III

DRAWING B2-010-927122
RCRA PART A FACILITY MAP
PART 111 OPERATING LICENSE RE-APPLICATION
FACILITY ID NUMBER MID000724724
(Revised March 2013)

FILE: License/CAMU MOD.MXD


N
W
E
S
City of Midland
10
20
20
10
Dow Chemical
Michigan Operations
Salzburg
Landfill
Midland County
Bay County
47
Legend
Dow Facility Boundary
City of Midland
Drawn By:
MDC
Date:
10/03/06
Scale:
1"=5,280'
Title:
FIGURE III-1
Site Location Plan
The Dow Chemical Company
Salzburg Landfill
File:
SALZBURG-LIC-002.mxd

SCALE
0' 100' 200' 400'

AERIAL DATE: 11/26/90

LEGEND

- ELECTRICAL TOWER
- UTILITY POLES
- MONITORING WELLS
- WATER WELL - RESIDENTIAL - (EXACT LOCATION UNKNOWN)
- FACILITY BOUNDARY & POINT OF COMPLIANCE
- FENCE LINE
- PAVED ROADWAYS
- UNPAVED ROADWAYS
- AIR MONITORING STATION
- (00) HAZARDOUS WASTE CELL (NOTE: CELLS 3 THRU 16 ARE CO-LICENSED FOR HAZARDOUS & NON-HAZARDOUS WASTES)
- (00) NON-HAZARDOUS WASTE CELL
- 100 YEAR FLOODPLAIN AREA
- 001-A SURFACE WATER DRAINAGE OUTLET

MATCH LINE SEE B2-009

REV. MARK	REVISION	BY	CHK	APP	DATE
A	ADDED REFERENCE TO POINT OF COMPLIANCE & OUTLET "F"	LEG	JJA	JJA	9/08

DRAWING ISSUE RECORD

ISSUE NO.	REV	MATERIAL OR JOB SPEC	BID	FAB	CONST	REF

DATE ISSUED FOR

DESIGNED	J.J. ALLEN	11/05
DRAWN	L.E. GIRARDIN	11/05
CHECKED	J.J.A.	11/05
APPROVED	J.J.A.	11/05
PROJ. ENGR.	J.J. ALLEN	11/05
MFG. REP.	STEVE LUCAS	11/05

STATUS | PLANT NO.
P.E. SEAL

THE DOW CHEMICAL COMPANY
MICHIGAN DIVISION — MIDLAND, MICHIGAN
SALZBURG LANDFILL — 3600 BLDG

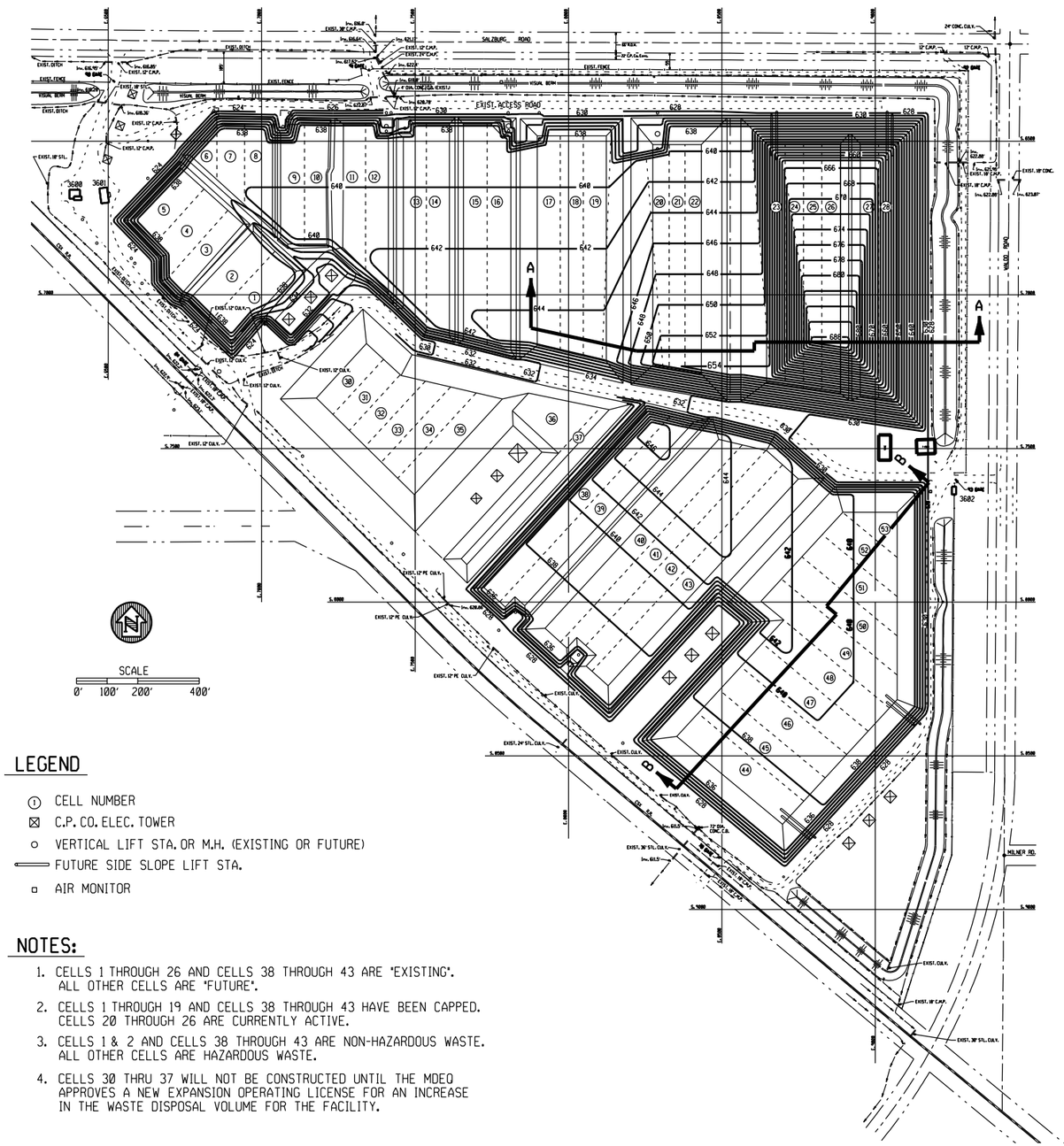
FIGURE 11.P-1
SITE TOPOGRAPHIC MAP
(SHEET 1 OF 2)

EJN NUMBER	SCALE		REV.
114291	1" = 200'-0"	B2-100-1374	A

PRINTED | VER.

2 PLN

$FILENAME $DATE $TIME $PERSON $INSTRUCTIONS

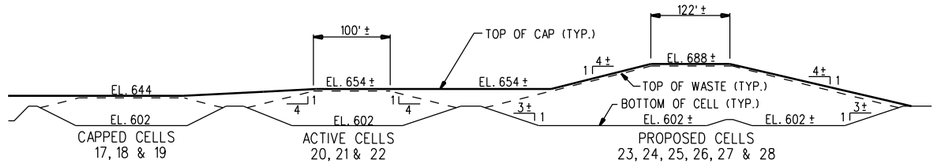


LEGEND

- ① CELL NUMBER
- ⊠ C.P. CO. ELEC. TOWER
- ○ VERTICAL LIFT STA. OR M.H. (EXISTING OR FUTURE)
- ═══ FUTURE SIDE SLOPE LIFT STA.
- ▫ AIR MONITOR

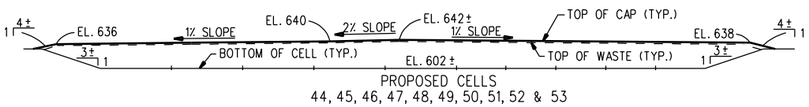
NOTES:

1. CELLS 1 THROUGH 26 AND CELLS 38 THROUGH 43 ARE "EXISTING". ALL OTHER CELLS ARE "FUTURE".
2. CELLS 1 THROUGH 19 AND CELLS 38 THROUGH 43 HAVE BEEN CAPPED. CELLS 20 THROUGH 26 ARE CURRENTLY ACTIVE.
3. CELLS 1 & 2 AND CELLS 38 THROUGH 43 ARE NON-HAZARDOUS WASTE. ALL OTHER CELLS ARE HAZARDOUS WASTE.
4. CELLS 30 THRU 37 WILL NOT BE CONSTRUCTED UNTIL THE MDEQ APPROVES A NEW EXPANSION OPERATING LICENSE FOR AN INCREASE IN THE WASTE DISPOSAL VOLUME FOR THE FACILITY.



SECTION A-A (LOOKING NORTH)

NO SCALE



SECTION B-B (LOOKING NORTHWEST)

NO SCALE

REV. MARK	REVISION	BY	CHK	APP	DATE
A	REVISED CONFIGURATION OF CAPS FOR CELLS 23 THRU 28 AND CELLS 44 THRU 53	LEG	JJA	JJA	2/08
B	REVISED TO NOTE CELLS 30 THRU 37 WILL NOT BE BUILT UNTIL CONSTRUCTION PERMIT VOLUME MOD IS APPROVED. ALSO REVISED CELLS 44 THRU 53 CAP ELEVS SO ACTUAL STORAGE VOLUME EQUALS CURRENT LICENSE VOLUME.	LEG	JJA	JJA	9/08
C	REVISED NOTE 1 - REPLACE THE NUMBER "22" WITH "26"	HG			6/15
D	REVISED NOTE 2-CHANGED THE SECOND SENTENCE TO READ "CELLS 20 THROUGH 26 ARE CURRENTLY ACTIVE"	HG			6/15
E	REVISED NOTE 4-REPLACED THE WORDS "CONSTRUCTION PERMIT MODIFICATION" TO "NEW EXPANSION OPERATING LICENSE"	HG			6/15

DRAWING ISSUE RECORD

ISSUE NO.	REV	MATERIAL OR JOB SPEC	BID	FAB	CONST	REF
			DATE ISSUED FOR			

DESIGNED	J.J. ALLEN	11/05
DRAWN	L.E. GIRARDIN	11/05
CHECKED	J.J.A.	11/05
APPROVED	J.J.A.	11/05
PROJ. ENGR.	J.J. ALLEN	11/05
MFG. REP.	STEVE LUCAS	11/05

STATUS | PLANT NO.
P.E. SEAL

THE DOW CHEMICAL COMPANY
MICHIGAN DIVISION — MIDLAND, MICHIGAN
SALZBURG LANDFILL — 3600 BLDG.

EXISTING & FUTURE CAPPING LAYOUT

EJN NUMBER	SCALE		REV.
114291	1" = 200'-0"	B2-002-1374	E

2 PLN

PRINTED | VER.

SPECIFICATIONS | DATE | TIME | FILENAME

ATTACHMENT 3

Acceptable Waste Types

APPENDIX A - LIST OF ACCEPTABLE WASTE TYPES FOR MANAGEMENT AT THE DOW MICHIGAN OPERATIONS MIDLAND PLANT & SALZBURG LANDFILL FACILITIES

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
Not Appl-icable	Compatible non-hazardous solid waste (including, but not limited to, asbestos, soils, rubble, and process waste and containers), provided the licensee complies with the most stringent regulatory requirements of Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), or Part 115, Solid Waste Management, of Act 451.					*
001T	Incinerator Ash -- Hazardous waste by definition/residue of hazardous waste management -- may carry all waste codes managed by generating unit.	*		*	*	*
003T	Primary Wastewater Treatment Plant Solids -- Hazardous waste by definition/residue of hazardous waste management -- may carry all waste codes managed by generating unit.	*		*	*	*
004T	Secondary Wastewater Treatment Plant Effluent -- Hazardous waste by definition/residue of hazardous waste management -- may carry all waste codes managed by generating unit.	*	*	*	*	*
005T	Secondary Wastewater Treatment Plant Solids -- Hazardous waste by definition/residue of hazardous waste management -- may carry all waste codes managed by generating unit.	*	*	*	*	*
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, F005; and still bottoms from the recovery of these spent solvents and spent solvents mixtures.	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
F002	The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, trichlorofluoromethane and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of one or more of the above halogenated solvents or those solvents listed in F001, F004, F005; and still bottoms form the recovery of these spent solvents.	*	#	*	*	*
F003	The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005 and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	*	#	*	*	*
F004	The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
F005	The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures and blends containing, before use, a total of ten percent or more(by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	*	#	*	*	*
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	*	#	*	*	*
F020(3)	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachloro-phenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of hexachlorophene from highly purified 2,4,5-triachlorophenol).	*		*		
F021(3)	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	*		*		
F022(3)	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.	*		*		

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
F023[(3)]	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri-and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol.).	*	#	*		
F024	Process wastes, including but not limited to, distillation, heavy ends, tars, and reactor cleanout wastes from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine.	*	#	*	*	*
F025	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	*	#	*	*	*
F026[(3)]	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra, penta-, or hexachlorobenzene under alkaline conditions.	*		*		
F027[(3)]	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulation containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized from pre purified 2,4,5-trichlorophenol as the sole component.).	*		*		

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste numbers F020, F021, F022, F023, F026, and F027.	*	#	*	*	
F039	Leachate resulting from the treatment, storage, or disposal of wastes classified by more than one waste code under Subpart D, or from a mixture of wastes classified under Subparts C & D of this part. (Leachate resulting from the management of one or more of one or more of the following EPA Hazardous Wastes and no other Hazardous Waste retains its EPA Hazardous Waste Number (s): F020, F021, F022, F026, F027, and/or F028.)	*	#	*	*	*
K015	Still bottoms from the distillation of benzyl chloride.	*	#	*	*	*
K016	Heavy ends or distillation residues from the production of carbon tetrachloride.	*	#	*	*	*
K017	Heavy ends or still bottoms from the purification column in the production of epichlorohydrin.	*	#	*	*	*
K018	Heavy ends from the fractionation column in ethyl chloride production.	*	#	*	*	*
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	*	#	*	*	*
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	*	#	*	*	*
K021	Aqueous spend antimony catalyst waste from fluoromethanes production.	*	#	*	*	*
K022	Distillation bottom tars from the production of phenol or acetone from cumene.	*	#	*	*	*
K023	Distillation light ends from the production of phthalic anhydride from naphthalene.	*	#	*	*	*
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.	*	#	*	*	*
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	*	#	*	*	*
K026	Stripping still tails from the production of methyl ethyl pyridines.	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
K027	Centrifuge and distillation residues from toluene diisocyanate production.	*	#	*	*	*(4)
K028	Spend catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	*	#	*	*	*
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.	*	#	*	*	*
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	*	#	*	*	*
K042	Heavy ends of distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	*	#	*	*	*
K043	2,6-Dichlorophenol waste from the production of 2,4-D	*	#	*	*	*
K049	Slop oil emulsion solids from the petroleum refining industry.	*	#	*	*	*
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.	*	#	*	*	*
K051	API separator sludge from the petroleum refining industry.	*	#	*	*	*
K052	Tank bottoms (leaded) from the petroleum refining industry.	*	#	*	*	*
K073	Chlorinated hydrocarbon wastes from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	*	#	*	*	*
K083	Distillation bottoms from aniline production	*	#	*	*	*
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.	*	#	*	*	*
K095	Distillation bottoms from the production of 1,1,1-trichloroethane	*	#	*	*	*
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane	*	#	*	*	*
K099	Untreated wastewater from the production of 2,4-D	*	#	*	*	*
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
P001	Warfarin,& salts, when present at concentrations greater than 0.3%	*	#	*	*	*
P002	1-Acetyl-2-thiourea	*	#	*	*	*
P003	Acrolein	*	#	*	*	*
P004	Aldrin	*	#	*	*	*
P005	Allyl Alcohol	*	#	*	*	*
P006	Aluminum phosphide	*	#	*	*	*
P007	5-(Aminomethyl)-3-isoxazolol	*	#	*	*	*
P008	4-Aminopyridine	*	#	*	*	*
P009	Ammonium picrate	*	#	*	*	*
P010	Arsenic Acid	*	#	*	*	*
P011	Arsenic pentoxide	*	#	*	*	*
P012	Arsenic trioxide	*	#	*	*	*
P013	Barium cyanide	*	#	*	*	*
P014	Benzenethiol	*	#	*	*	*
P015	Beryllium powder	*	#	*	*	*
P016	Dichloromethyl ether	*	#	*	*	*
P017	Bromoacetone	*	#	*	*	*
P018	Brucine	*	#	*	*	*
P020	2-sec-Butyl-4,6-Dinitrophenol (Dinoseb)	*	#	*	*	*
P021	Calcium cyanide (Ca(CN)2	*	#	*	*	*
P022	Carbon disulfide	*	#	*	*	*
P023	Chloroacetaldehyde	*	#	*	*	*
P024	p-Chloroaniline	*	#	*	*	*
P026	1-(o-Chlorophenyl)thiourea	*	#	*	*	*
P027	3-Chloropropionitrile	*	#	*	*	*
P028	Benzyl chloride	*	#	*	*	*
P029	Copper cyanide	*	#	*	*	*
P030	Cyanides (soluble cyanide salts) not elsewhere specified	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
P031	Cyanogen	*	#	*	*	*
P033	Cyanogen chloride	*	#	*	*	*
P034	2-Cyclohexyl-4,6-dinitrophenol	*	#	*	*	*
P036	Dichlorophenylarsine	*	#	*	*	*
P037	Dieldrin	*	#	*	*	*
P038	Diethylarsine	*	#	*	*	*
P039	Disulfoton	*	#	*	*	*
P040	O,O-Diethyl O-pyrazinyl phosphorothioate	*	#	*	*	*
P041	Diethyl-p-nitrophenyl phosphate	*	#	*	*	*
P042	Epinephrine	*	#	*	*	*
P043	Diisopropyl fluorophosphates	*	#	*	*	*
P044	Dimethoate	*	#	*	*	*
P045	Thiofanox	*	#	*	*	*
P046	alpha,alpha-Dimethylphenethylamine	*	#	*	*	*
P047	4,6-Dinitro-o-cresol and salts	*	#	*	*	*
P048	2,4-Dinitrophenol	*	#	*	*	*
P049	2,4-Dithiobiuret	*	#	*	*	*
P050	Endosulfan	*	#	*	*	*
P051	Endrin	*	#	*	*	*
P054	Ethylenimine	*	#	*	*	*
P056	Flourine	*	#	*	*	*
P057	Fluoroacetamide	*	#	*	*	*
P058	Fluoroacetic acid, sodium salt	*	#	*	*	*
P059	Heptachlor	*	#	*	*	*
P060	Isodrin	*	#	*	*	*
P062	Hexaethyl tetraphosphate	*	#	*	*	*
P063	Hydrogen cyanide	*	#	*	*	*
P064	Methyl isocyanate	*	#	*	*	*
P065	Mercury fulminate	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
P066	Methomyl	*	#	*	*	*
P067	2-Methyl-aziridine	*	#	*	*	*
P068	Methyl hydrazine	*	#	*	*	*
P069	2-Methyllactonitrile	*	#	*	*	*
P070	Aldicarb	*	#	*	*	*
P071	Methyl parathion	*	#	*	*	*
P072	1-Naphthyl-2-thiourea	*	#	*	*	*
P073	Nickel carbonyl	*	#	*	*	*
P074	Nickel cyanide	*	#	*	*	*
P075	Nicotine and salts	*	#	*	*	*
P076	Nitric oxide	*	#	*	*	*
P077	p-Nitroaniline	*	#	*	*	*
P078	Nitrogen dioxide	*	#	*	*	*
P081	Nitroglycerine	*	#	*	*	*
P082	N-Nitrosodimethylamine	*	#	*	*	*
P084	N-Nitrosomethylvinylamine	*	#	*	*	*
P085	Octamethylpyrophosphoramide	*	#	*	*	*
P087	Osmium tetroxide	*	#	*	*	*
P088	Endothall	*	#	*	*	*
P089	Parathion	*	#	*	*	*
P092	Phenylmercuric acetate	*	#	*	*	*
P093	N-Phenylthiourea	*	#	*	*	*
P094	Phorate	*	#	*	*	*
P095	Phosgene	*	#	*	*	*
P096	Phosphine	*	#	*	*	*
P097	Famphur	*	#	*	*	*
P098	Potassium cyanide	*	#	*	*	*
P099	Potassium silver cyanide	*	#	*	*	*
P101	Ethyl Cyanide (Propanenitrile)	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
P102	Propargyl alcohol	*	#	*	*	*
P103	Selenourea	*	#	*	*	*
P104	Silver cyanide	*	#	*	*	*
P105	Sodium azide	*	#	*	*	*
P106	Sodium cyanide	*	#	*	*	*
P108	Strychnidin-10-one, and salts	*	#	*	*	*
P109	Tetraethyldithiopyrophosphate	*	#	*	*	*
P110	Tetraethyl lead	*	#	*	*	*
P111	Tetraethylpyrophosphate	*	#	*	*	*
P112	Tetranitromethane	*	#	*	*	*
P113	Thallic oxide	*	#	*	*	*
P114	Thallium selenite	*	#	*	*	*
P115	Thallium (I) sulfate	*	#	*	*	*
P116	Thiosemicarbazide	*	#	*	*	*
P118	Trichloromethanethiol	*	#	*	*	*
P119	Ammonium vanadate	*	#	*	*	*
P120	Vanadium pentoxide	*	#	*	*	*
P121	Zinc cyanide	*	#	*	*	*
P122	Zinc phosphide, when present at concentrations greater than 10%	*	#	*	*	*
P123	Toxaphene	*	#	*	*	*
P127	Carbofuran	*	#	*	*	*
P128	Mexacarbate	*	#	*	*	*
P185	Tirpate	*	#	*	*	*
P188	Physostigmine salicylate	*	#	*	*	*
P189	Carbosulfan	*	#	*	*	*
P190	Metolcarb	*	#	*	*	*
P191	Dimetilan	*	#	*	*	*
P192	Isolan	*	#	*	*	*
P194	Oxamyl	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
P196	Manganese dimethyldithiocarbamate	*	#	*	*	*
P197	Formparanate	*	#	*	*	*
P198	Formetanate hydrochloride	*	#	*	*	*
P199	Methiocarb	*	#	*	*	*
P201	Promecarb	*	#	*	*	*
P202	m-Cumenyl methylcarbamate	*	#	*	*	*
P203	Aldicarb sulfone	*	#	*	*	*
P204	Physostigmine	*	#	*	*	*
P205	Ziram	*	#	*	*	*
U001	Acetaldehyde	*	#	*	*	*
U002	Acetone	*	#	*	*	*
U003	Acetonitrile	*	#	*	*	*
U004	Acetophenone	*	#	*	*	*
U005	2-Acetylaminofluorene	*	#	*	*	*
U006	Acetyl chloride	*	#	*	*	*
U007	Acrylamide	*	#	*	*	*
U008	Acrylic acid	*	#	*	*	*
U009	Acrylonitrile	*	#	*	*	*
U010	Mitomycin	*	#	*	*	*
U011	Amitrole	*	#	*	*	*
U012	Aniline	*	#	*	*	*
U014	Auramine	*	#	*	*	*
U015	Azaserine	*	#	*	*	*
U016	Benz[c]acridine	*	#	*	*	*
U017	Benzal chloride	*	#	*	*	*
U018	Benz[a]anthracene	*	#	*	*	*
U019	Benzene	*	#	*	*	*
U020	Benzenesulfonyl chloride	*	#	*	*	*
U021	Benzidine	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
U022	Benzo[a]pyrene	*	#	*	*	*
U023	Benzotrichloride	*	#	*	*	*
U024	bis(2-Chloroethoxy)methane	*	#	*	*	*
U025	bis(2-Chloroethyl)ether	*	#	*	*	*
U026	Chlornaphazine	*	#	*	*	*
U027	bis(2-Chloroisopropyl)ether	*	#	*	*	*
U028	bis(2-Ethylhexyl) phthalate	*	#	*	*	*
U029	Methyl bromide (Bromomethane)	*	#	*	*	*
U030	4-Bromophenyl phenyl ether	*	#	*	*	*
U031	n-Butyl alchohol	*	#	*	*	*
U032	Calcium chromate	*	#	*	*	*
U033	Carbon oxyfluoride	*	#	*	*	*
U034	Trichloroacetaldehyde (Chloral)	*	#	*	*	*
U035	Chlorambucil	*	#	*	*	*
U036	Chlordane, alpha & gamma isomers	*	#	*	*	*
U037	Chlorobenzene	*	#	*	*	*
U038	Chlorobenzilate	*	#	*	*	*
U039	p-Chloro-m-cresol	*	#	*	*	*
U041	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	*	#	*	*	*
U042	2-Chloroethyl vinyl ether	*	#	*	*	*
U043	Vinyl chloride	*	#	*	*	*
U044	Chloroform	*	#	*	*	*
U045	Chloromethane	*	#	*	*	*
U046	Chloromethyl methyl ether	*	#	*	*	*
U047	2-Chloronaphthalene	*	#	*	*	*
U048	2-Chlorophenol	*	#	*	*	*
U049	4-Chloro-o-toluidine hydrochloride	*	#	*	*	*
U050	Chrysene	*	#	*	*	*
U051	Creosote	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
U052	Cresols (cresylic acid)	*	#	*	*	*
U053	Crotonaldehyde	*	#	*	*	*
U055	Cumene	*	#	*	*	*
U056	Cyclohexane	*	#	*	*	*
U057	Cyclohexanone	*	#	*	*	*
U058	Cyclophosphamide	*	#	*	*	*
U059	Daunomycin	*	#	*	*	*
U060	DDD	*	#	*	*	*
U061	DDT	*	#	*	*	*
U062	Diallate	*	#	*	*	*
U063	Dibenz[a,h]anthracene	*	#	*	*	*
U064	Dibenz[a,i]pyrene	*	#	*	*	*
U066	1,2-Dibromo-3-chloropropane	*	#	*	*	*
U067	Ethylene dibromide (1,2-Dibromoethane)	*	#	*	*	*
U068	Dibromomethane	*	#	*	*	*
U069	Dibutyl phthalate	*	#	*	*	*
U070	o-Dichlorobenzene	*	#	*	*	*
U071	m-Dichlorobenzene	*	#	*	*	*
U072	p-Dichlorobenzene	*	#	*	*	*
U073	3,3'-Dichlorobenzidine	*	#	*	*	*
U074	1,4-Dichloro-2-butene	*	#	*	*	*
U075	Dichlorodifluoromethane	*	#	*	*	*
U076	1,1-Dichloroethane	*	#	*	*	*
U077	1,2-Dichloroethane	*	#	*	*	*
U078	1,1-Dichloroethylene	*	#	*	*	*
U079	1,2-Dichloroethylene	*	#	*	*	*
U080	Methylene Chloride	*	#	*	*	*
U081	2,4-Dichlorophenol	*	#	*	*	*
U082	2,6-Dichlorophenol	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
U083	1,2-Dichloropropane	*	#	*	*	*
U084	1,3-Dichloropropene	*	#	*	*	*
U085	1,2:3,4-Diepoxybutane	*	#	*	*	*
U086	N,N-Diethylhydrazine	*	#	*	*	*
U087	O,O-Diethyl-S-methyl-dithiophosphate	*	#	*	*	*
U088	Diethyl phthalate	*	#	*	*	*
U089	Diethylstilbestrol	*	#	*	*	*
U090	Dihydrosafrole	*	#	*	*	*
U091	3,3'-Dimethoxybenzidine	*	#	*	*	*
U092	Dimethylamine	*	#	*	*	*
U093	Dimethylaminoazobenzene	*	#	*	*	*
U094	7,12-Dimethylbenz[a]anthracene	*	#	*	*	*
U095	3,3'-Dimethylbenzidine	*	#	*	*	*
U096	alpha,alpha-Dimethylbenzylhydroperoxide	*	#	*	*	*
U097	Dimethylcarbamoyl chloride	*	#	*	*	*
U098	1,1-Dimethylhydrazine	*	#	*	*	*
U099	1,2-Dimethylhydrazine	*	#	*	*	*
U101	2,4-Dimethylphenol	*	#	*	*	*
U102	Dimethyl phthalate	*	#	*	*	*
U103	Dimethyl sulfate	*	#	*	*	*
U105	2,4-Dinitrotoluene	*	#	*	*	*
U106	2,6-Dinitrotoluene	*	#	*	*	*
U107	Di-n-octyl phthalate	*	#	*	*	*
U108	1,4-Dioxane	*	#	*	*	*
U109	1,2-Diphenylhydrazine	*	#	*	*	*
U110	Dipropylamine	*	#	*	*	*
U111	Di-n-propylnitrosamine	*	#	*	*	*
U112	Ethyl acetate	*	#	*	*	*
U113	Ethyl acrylate	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
U114	Ethylenebis(dithiocarbamic acid), salts & ester	*	#	*	*	*
U115	Ethylene oxide	*	#	*	*	*
U116	Ethylene thiourea	*	#	*	*	*
U117	Ethyl ether	*	#	*	*	*
U118	Ethyl methacrylate	*	#	*	*	*
U119	Ethyl methanesulfonate	*	#	*	*	*
U120	Fluoranthene	*	#	*	*	*
U121	Trichloromonofluoromethane	*	#	*	*	*
U122	Formaldehyde	*	#	*	*	*
U123	Formic acid	*	#	*	*	*
U124	Furan	*	#	*	*	*
U125	Furfural	*	#	*	*	*
U126	Glycidylaldehyde	*	#	*	*	*
U127	Hexachlorobenzene	*	#	*	*	*
U128	Hexachlorobutadiene	*	#	*	*	*
U129	Lindane	*	#	*	*	*
U130	Hexachlorocyclopentadiene	*	#	*	*	*
U131	Hexachloroethane	*	#	*	*	*
U132	Hexachlorophene	*	#	*	*	*
U133	Hydrazine	*	#	*	*	*
U134	Hydrogen fluoride	*	#	*	*	*
U135	Hydrogen sulfide	*	#	*	*	*
U136	Cacodylic acid	*	#	*	*	*
U137	Indeno[1,2,3-cd]pyrene	*	#	*	*	*
U138	Iodomethane	*	#	*	*	*
U140	Isobutyl alcohol	*	#	*	*	*
U141	Isosafrole	*	#	*	*	*
U142	Kepone	*	#	*	*	*
U143	Lasiocarpine	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
U144	Lead acetate	*	#	*	*	*
U145	Lead phosphate	*	#	*	*	*
U146	Lead subacetate	*	#	*	*	*
U147	Maleic anhydride	*	#	*	*	*
U148	Maleic hydrazide	*	#	*	*	*
U149	Malononitrile	*	#	*	*	*
U150	Melphalan	*	#	*	*	*
U151	Mercury	*	#	*	*	*
U152	Methacrylonitrile	*	#	*	*	*
U153	Methanethiol	*	#	*	*	*
U154	Methanol	*	#	*	*	*
U155	Methanpyrilene	*	#	*	*	*
U156	Methyl chlorocarbonate	*	#	*	*	*
U157	3-Methylcholanthrene	*	#	*	*	*
U158	4,4'Methylenebis(2-chloroaniline)	*	#	*	*	*
U159	Methyl ethyl ketone	*	#	*	*	*
U160	Methyl ethyl ketone peroxide	*	#	*	*	*
U161	Methyl isobutyl ketone	*	#	*	*	*
U162	Methyl methacrylate	*	#	*	*	*
U163	N-Methyl N’-nitro N-nitrosoguanidine	*	#	*	*	*
U164	Methylthiouracil	*	#	*	*	*
U165	Naphthalene	*	#	*	*	*
U166	1,4,Naphthoquinone	*	#	*	*	*
U167	1-Naphthylenamine	*	#	*	*	*
U168	2-Naphthylenamine	*	#	*	*	*
U169	Nitrobenzene	*	#	*	*	*
U170	p-Nitrophenol	*	#	*	*	*
U171	2-Nitropropane	*	#	*	*	*
U172	N-Nitrosodi-n-butylamine	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
U173	N-Nitrosodiethanolamine	*	#	*	*	*
U174	N-Nitrosodiethylamine	*	#	*	*	*
U176	N-Nitroso-N-ethylurea	*	#	*	*	*
U177	N-Nitroso-N-methylurea	*	#	*	*	*
U178	N-Nitroso-N-methylurethane	*	#	*	*	*
U179	N-Nitrosopiperidine	*	#	*	*	*
U180	N-Nitrosopyrrolidine	*	#	*	*	*
U181	5-Nitro-o-toluidine	*	#	*	*	*
U182	Paraldehyde	*	#	*	*	*
U183	Pentachlorobenzene	*	#	*	*	*
U184	Pentachloroethane	*	#	*	*	*
U185	Pentachloronitrobenzene	*	#	*	*	*
U186	1,3-Pentadiene	*	#	*	*	*
U187	Phenacetin	*	#	*	*	*
U188	Phenol	*	#	*	*	*
U189	Phosphorous sulfide	*	#	*	*	*
U190	Phthalic anhydride	*	#	*	*	*
U191	2-Picoline	*	#	*	*	*
U192	Pronamide	*	#	*	*	*
U193	1,3-Propane sultone	*	#	*	*	*
U194	1-Propanamine	*	#	*	*	*
U196	Pyridine	*	#	*	*	*
U197	p-Benzoquinone	*	#	*	*	*
U200	Reserpine	*	#	*	*	*
U201	Resorcinol	*	#	*	*	*
U202	1,2-Benzisothiazol-3-(2H)-one, 1,1-dioxide and salts	*	#	*	*	*
U203	Safrole	*	#	*	*	*
U204	Selenium dioxide	*	#	*	*	*
U205	Selenium disulfide	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
U206	Streptozotocin	*	#	*	*	*
U207	1,2,4,5-Tetrachlorobenzene	*	#	*	*	*
U208	1,1,1,2-Tetrachloroethane	*	#	*	*	*
U209	1,1,2,2-Tetrachloroethane	*	#	*	*	*
U210	Tetrachloroethylene	*	#	*	*	*
U211	Carbon tetrachloride	*	#	*	*	*
U213	Tetrahydrofuran	*	#	*	*	*
U214	Thallium(I) acetate	*	#	*	*	*
U215	Thallium(I) carbonate	*	#	*	*	*
U216	Thallium(I) chloride	*	#	*	*	*
U217	Thallium(I) nitrate	*	#	*	*	*
U218	Thioacetamide	*	#	*	*	*
U219	Thiourea	*	#	*	*	*
U220	Toluene	*	#	*	*	*
U221	Toluenediamine	*	#	*	*	*
U222	o-Toluidine hydrochloride	*	#	*	*	*
U223	Toluene diisocyanate	*	#	*	*	*
U225	Bromoform (Tribromomethane)	*	#	*	*	*
U226	1,1,1-Trichloroethane	*	#	*	*	*
U227	1,1,2-Trichloroethane	*	#	*	*	*
U228	Trichloroethylene	*	#	*	*	*
U234	1,3,5-Trinitrobenzene	*	#	*	*	*
U235	Tris(2,3-dibromopropyl) phosphate	*	#	*	*	*
U236	Trypan blue	*	#	*	*	*
U237	Uracil mustard	*	#	*	*	*
U238	Urethane (ethylcarbamate)	*	#	*	*	*
U239	Xylenes	*	#	*	*	*
U240	2,4-D (2,4-Dichlorophenoxyacetic acid) and salts and esters	*	#	*	*	*
U243	Hexachloropropylene	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
U244	Thiram	*	#	*	*	*
U246	Cyanogen bromide	*	#	*	*	*
U247	Methoxychlor	*	#	*	*	*
U248	Warfarin & salts, when present at concentrations of 0.3% or less	*	#	*	*	*
U249	Zinc phosphate, when present at concentrations of 10% or less	*	#	*	*	*
U271	Benomyl	*	#	*	*	*
U278	Bendiocarb	*	#	*	*	*
U279	Carbaryl	*	#	*	*	*
U280	Barban	*	#	*	*	*
U328	o-Toluidine	*	#	*	*	*
U353	p-Toluidine	*	#	*	*	*
U359	2-Ethoxythanol	*	#	*	*	*
U364	Bendiocarb phenol	*	#	*	*	*
U367	Carbofuran phenol	*	#	*	*	*
U372	Carbendazim	*	#	*	*	*
U373	Propham	*	#	*	*	*
U387	Prosulfocarb	*	#	*	*	*
U389	Triallate	*	#	*	*	*
U394	A2213	*	#	*	*	*
U395	Diethylene glycol, dicarbamate	*	#	*	*	*
U404	Triethylamine	*	#	*	*	*
U409	Thiophanate – methyl	*	#	*	*	*
U410	Thiodicarb	*	#	*	*	*
U411	Propoxur	*	#	*	*	*
D001	Characteristic of ignitability	*			*	*(4)
D002	Characteristic of corrosivity	*			*	*
D003	Characteristic of reactivity	*			*	*(4)
D004	Arsenic	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
D005	Barium	*	#	*	*	*
D006	Cadmium	*	#	*	*	*
D007	Chromium	*	#	*	*	*
D008	Lead	*	#	*	*	*
D009	Mercury	*	#	*	*	*
D010	Selenium	*	#	*	*	*
D011	Silver	*	#	*	*	*
D012	Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8-dimethano naphthalene.	*	#	*	*	*
D013	Lindane (1,2,3,4,5,6-hexachloro-cyclohexane gamma isomer).	*	#	*	*	*
D014	Methoxychlor (1,1,1-Trichlor-2,2-bis (p-methoxyphenyl)ethane).	*	#	*	*	*
D015	Toxaphene (C10H10CL8 Technical chlorinated camphene, 67-69% chlorine).	*	#	*	*	*
D016	2,4-D (2,4-dichlorophenoxy acetic acid)	*	#	*	*	*
D017	2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid).	*	#	*	*	*
D018	Benzene	*	#	*	*	*
D019	Carbon tetrachloride	*	#	*	*	*
D020	Chlordane	*	#	*	*	*
D021	Chlorobenzene	*	#	*	*	*
D022	Chloroform	*	#	*	*	*
D023	o-Cresol	*	#	*	*	*
D024	m-Cresol	*	#	*	*	*
D025	p-Cresol	*	#	*	*	*
D026	Cresol	*	#	*	*	*
D027	1,4-Dichlorobenzene	*	#	*	*	*
D028	1,2-Dichloroethane	*	#	*	*	*
D029	1,1-Dichloroethylene	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
D030	2,4-Dinitrotoluene	*	#	*	*	*
D031	Heptachlor (and its hydroxide)	*	#	*	*	*
D032	Hexachlorobenzene	*	#	*	*	*
D033	Hexachloro-1,3-butadiene	*	#	*	*	*
D034	Hexachloroethane	*	#	*	*	*
D035	Methyl ethyl ketone	*	#	*	*	*
D036	Nitrobenzene	*	#	*	*	*
D037	Pentachlorophenol	*	#	*	*	*
D038	Pyridine	*	#	*	*	*
D039	Tetrachloroethylene	*	#	*	*	*
D040	Trichloroethylene	*	#	*	*	*
D041	2,4,5-Trichlorophenol	*	#	*	*	*
D042	2,4,6-Trichlorophenol	*	#	*	*	*
D043	Vinyl Chloride	*	#	*	*	*
001S	Aflatoxin	*	#	*	*	*
002S	2,3,7,8-Tetrachlorodibenzo-p-dioxin	*	#	*	*	*
003S	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	*	#	*	*	*
004S	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	*	#	*	*	*
005S	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	*	#	*	*	*
006S	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	*	#	*	*	*
007S	2,3,7,8-Tetrachlorodibenzo furan	*	#	*	*	*
001U	Actinomycin D	*	#	*	*	*
002U	Allyl chloride	*	#	*	*	*
003U	2-aminoanthraquinone	*	#	*	*	*
004U	Aminoazobenzene	*	#	*	*	*
005U	O-aminoazotoluene	*	#	*	*	*
006U	4-aminobiphenyl	*	#	*	*	*
007U	3-amino-9-ethyl carbazole	*	#	*	*	*
157U	3-amino-9-ethyl carbazole hydrochloride	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
008U	1-amino-2-methyl anthraquinone	*	#	*	*	*
009U	Anilazine	*	#	*	*	*
158U	Aniline hydrochloride	*	#	*	*	*
011U	o-Anisidine	*	#	*	*	*
012U	o-Anisidine hydrochloride	*	#	*	*	*
014U	Antimycin A	*	#	*	*	*
147U	Azinphos-ethyl	*	#	*	*	*
148U	Azinphos-methyl	*	#	*	*	*
159U	Azobenzene	*	#	*	*	*
020U	Bromoxynil	*	#	*	*	*
160U	1,3-Butadiene	*	#	*	*	*
161U	Butyl benzyl phthalate	*	#	*	*	*
021U	2(p-tert-Butylphenoxy)-isopropyl-2-chloro-ethyl sulfite	*	#	*	*	*
022U	Captafol	*	#	*	*	*
023U	Captan	*	#	*	*	*
027U	Carbophenothion	*	#	*	*	*
152U	Chlorfenuinphos	*	#	*	*	*
029U	Chloropyrifos	*	#	*	*	*
032U	Chlorine gas	*	#	*	*	*
033U	2-Chloroethanol	*	#	*	*	*
034U	3-(Chloromethyl) pyridine hydrochloride	*	#	*	*	*
150U	p-Chlorphenol	*	#	*	*	*
162U	1-Chloro-4-phenoxybenzene	*	#	*	*	*
036U	4-chloro-m-phenylenediamine	*	#	*	*	*
037U	4-Chloro-o-phenylenediamine	*	#	*	*	*
038U	Chloroprene	*	#	*	*	*
163U	1-Chloropropene	*	#	*	*	*
151U	5-Chloro-o-toluidene	*	#	*	*	*
040U	Clonitralid	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
042U	Coumaphos	*	#	*	*	*
043U	p-Cresidine	*	#	*	*	*
044U	Crotoxyphos	*	#	*	*	*
046U	Cycloheximide	*	#	*	*	*
164U	p,p' DDE	*	#	*	*	*
047U	Demeton	*	#	*	*	*
048U	2,4-Diaminoanisole sulfate	*	#	*	*	*
049U	4,4'-Diaminodiphenyl ether	*	#	*	*	*
050U	2,4-Diaminotoluene	*	#	*	*	*
051U	Diazinon	*	#	*	*	*
052U	Dichlone	*	#	*	*	*
054U	Dichlorvos	*	#	*	*	*
055U	Dichrotophos	*	#	*	*	*
056U	Diethyl sulfate	*	#	*	*	*
165U	N,N1-Diethylthiourea	*	#	*	*	*
057U	Dinocap	*	#	*	*	*
058U	Dioxathion	*	#	*	*	*
059U	EPN	*	#	*	*	*
166U	1,2-Epoxybutane	*	#	*	*	*
061U	Ethion	*	#	*	*	*
063U	Fensulfothion	*	#	*	*	*
064U	Fenthion	*	#	*	*	*
065U	Fluchloralin	*	#	*	*	*
068U	Hexamethyl phosphoramide	*	#	*	*	*
070U	Hydroquinone	*	#	*	*	*
071U	N-(2-Hydroxyethyl) ethyleneimine	*	#	*	*	*
073U	Isonicotinic acid hydrazine	*	#	*	*	*
167U	Kanechlor C	*	#	*	*	*
074U	Ketene	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
075U	Lactonitril	*	#	*	*	*
076U	Leptophos	*	#	*	*	*
078U	Malachite green	*	#	*	*	*
079U	Malathion	*	#	*	*	*
080U	Mestranol	*	#	*	*	*
082U	4,4'-Methylenebis (2-methylaniline)	*	#	*	*	*
083U	4,4'-Methylenebis (N,N-dimethylaniline)	*	#	*	*	*
086U	1-Methylnaphthalene	*	#	*	*	*
088U	Mevinphos	*	#	*	*	*
089U	Mexacarbate	*	#	*	*	*
090U	Mirex	*	#	*	*	*
092U	Monocrotophos	*	#	*	*	*
093U	Mustard gas	*	#	*	*	*
094U	Naled	*	#	*	*	*
095U	1,5-Napthalenediamine	*	#	*	*	*
097U	Niridazole	*	#	*	*	*
098U	Nithiazide	*	#	*	*	*
099U	5-Nitroacenaphthene	*	#	*	*	*
100U	Nitro-o-anisidine	*	#	*	*	*
101U	Nitrobiphenyl	*	#	*	*	*
102U	Nitrofen	*	#	*	*	*
103U	N-(4-(5-nitro-2-furanyl)-2-thiazolyl)-acetamide	*	#	*	*	*
104U	Nitrogen mustard	*	#	*	*	*
106U	p-Nitrosodiphenylamine	*	#	*	*	*
108U	N-nitroso-N-phenylhydroxylamine, ammonium salt	*	#	*	*	*
169U	Octachlorostyrene	*	#	*	*	*
110U	Oxydemeton-methyl	*	#	*	*	*
111U	Paraquat	*	#	*	*	*
112U	Peroxyacetic acid	*	#	*	*	*

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
113U	Phenazopyridine hydrochloride	*	#	*	*	*
114U	Phenesterin	*	#	*	*	*
115U	Phenolbarbitol	*	#	*	*	*
116U	Phenytoin	*	#	*	*	*
117U	Phenytoin sodium	*	#	*	*	*
118U	Phosazetim	*	#	*	*	*
119U	Phosmet	*	#	*	*	*
120U	Phosphamidon	*	#	*	*	*
121U	Piperonyl sulfoxide	*	#	*	*	*
124U	Propiolactone	*	#	*	*	*
127U	Propylthiouracil	*	#	*	*	*
128U	Rotenone	*	#	*	*	*
129U	Semicarbazide	*	#	*	*	*
170U	Semicarbazide	*	#	*	*	*
153U	Sodium fluoroacetate	*	#	*	*	*
131U	Styrene	*	#	*	*	*
132U	Sulfallate	*	#	*	*	*
134U	TDE	*	#	*	*	*
136U	Terbufos	*	#	*	*	
137U	Tetrachlorovinphos	*	#	*	*	
138U	4,4'-Thiodianiline	*	#	*	*	
139U	0-Toluidine	*	#	*	*	
154U	Bis(tri-n-butyl tin) oxide	*	#	*	*	
171U	Tributyltin (and other salts and esters)	*	#	*	*	
172U	1,2,3-Trichlorobenzene	*	#	*	*	
173U	1,2,4-Trichlorobenzene	*	#	*	*	
141U	Trichlorfon	*	#	*	*	
142U	Trifluralin	*	#	*	*	
143U	2,4,5-Trimethylaniline	*	#	*	*	

WASTE CODE	WASTE DESCRIPTION OR CHEMICAL NAME	CONTAINER STORAGE	T-POND[2]	1163/33 BLDGS	INCIN TANK FARM STORAGE	SALZBURG LANDFILL[1]
144U	Triamethylphosphate	*	#	*	*	
174U	Urethane	*	#	*	*	
175U	Vinyl bromide	*	#	*	*	
155U	Vinylidene chloride	*	#	*	*	
146U	Ziram	*	#	*	*	

(1) A significant percentage of the volume of hazardous waste received at Salzburg Landfill is incinerator ash. Incinerator ash, and other hazardous waste that carry one or more of these hazardous waste codes, may be disposed at the Salzburg Landfill provided they meet either the applicable Land Disposal Restrictions treatment standards listed in 40 CFR Part 268 or a valid treatability variance. Salzburg Landfill does not accept radioactive waste for disposal, but it does receive treatment residues from the Midland Plant 32 Incinerator. Salzburg Landfill does accept waste containing naturally occurring radioactive material, "NORM", as exempted by R 325.5052 of Michigan's Ionizing Radiation Rules, Act No. 305 of the Public Acts of 1972.

(2) The sole source of hazardous waste managed in the T-Pond is the secondary wastewater treatment plant effluent and solids from the Midland Plant Wastewater Treatment Plant. The waste codes indicated with **#** are only contained in the T-Pond as part of the secondary wastewater treatment plant effluent and solids and cannot be directly stored/treated in the T-Pond. Due to the mixture and derived-from rules currently in place in the regulations, the secondary wastewater treatment plant effluent and solids will carry all of the listed codes from the waste streams managed in the Midland Plant 32 Incinerator and Wastewater Treatment Plant.

(3) Condition II.1(b), in emission unit EU32INCINERATOR-S1of the site's Renewable Operating Permit, State Registration Number (SRN): A4033, prohibits incineration of this dioxin-listed waste.

(4) Ignitable waste (D001) and Reactive waste (D003, K027) will only be accepted by Salzburg Landfill after the appropriate treatment (Deactivation) has been applied. Salzburg Landfill will receive only treatment residues that retain the code.

ATTACHMENT 4

Table B2-1 Summary of Potential or Actual Sources of Contamination

Table B2-1
Summary of Potential or Actual Sources of Contamination

WMU / AOC Number	Unit	WMU or AOC	Unit Characteristics (What unit is like today)	History of Release (includes brief site history & release/source description)	Interim Measures	Status
1	**Facility SWMU***	WMU	The entire area within the designated facility boundary. All WMUs and AOCs with the exception of US 10 Tank Farm, Pure Oil, Overlook Park, CD-9 and the brine spill sites are contained within and are a subunit of the Facility SWMU. Each is described in detail below.	The facility has been in operation for over 100 years, involving industrial activities and associated waste management practices. Section B2.A presents a comprehensive history of the facility. Figure B2-1 presents a timeline of site history, waste management and RCRA compliance. Figure B2-2 presents a facility product history timeline. Historic aerial releases from former combustion units contributed to impacts to surface soil (<2ft deep) across the Facility SWMU. Historic waste management or manufacturing prior to licensing led to impacts to subsurface soil (> 2 ft deep) and groundwater on-site. Historical groundwater contamination has migrated beyond the Facility Boundary in three areas: the Monitoring Well 6178 Area (northeast of Facility), Monitoring Well 6175 Area (northeast of facilty) and Monitoring Well 6172 Area (west of Facility). Historic aerial releases from former combustion units impacted off-site soils and historic waste management prior to licensing led to impacts to surface water in the Tittabawassee River. Other releases are outlined below for the other WMUs and AOCs.	Interim measures have occured or are on-going as summarized below for each of the WMUs and AOCs. For the Facility SWMU, the following categories of corrective action are on-going: Site-Wide Containment, Worker Exposure Control Program, Monitoring Natural Attenuation, Long-term Reduction of Contaminant Mass, and Off-Site Corrective Actions. Site-wide containment includes the RGIS/Groundwater collection systems which collect shallow groundwater from the facility for treatment at the WWTP, preventing migration off-site. CAP's, covers and slurry walls for individual WMUs, as described below. CAMMPs as described below for individual WMUs. Extensive environmental monitoring program as described in Attachment XIV.B5 Environmental Monitoring Programs. A Soil and Groundwater Exposure Control program is in place, as described in Appendix D. Appendix C provides documentation submitted for a CAMU and approved one-time staging pile to enable effective and timely remedy. An LDR Variance is used to facilitate timely management of soils for Corrective Action projects. Corrective action by monitored natural attenuation is on-going for the Monitoring Well 6175 and 6178 areas. A Work Plan Addendum for the Monitoring Well 6175 Area was submitted December 21, 2011 for MDEQ review and approval to evaluate future contaminant transport in the area. Source removal was conducted in the Monitoring Well 6172 area in 2012, and post-remedy monitoring is being performed to evaluate that action in accordance with the Interim Response Activity Work Plan, submitted March 16, 2012 for MDEQ review and approval. For off-site corrective actions, the Midland Area Soils program is being conducted in accordance with the approved Interim Response Activity Plan Designed to Meet Criteria, submitted May 25, 2012 and approved by MDEQ June 1, 2012. Off-site floodplain soils, surface water and sediment characterization, evaluation, and remedy adjacent to the RCRA Facility are being performed in accordance with the Administrative Settlement Agreement and Order on Consent for Remedial Investigations, Feasibility Study and/or Engineering Evaluation and Cost Analysis and Response Design (US EPA Region 5, CERCLA Docket no. V-W-10-942).	Operation, monitoring and maintenance activities are on-going for the facility. Implementation of approved IRDC Work Plan for the Midland Area Soils project and the AOC for off-site surface water, sediment, and floodplain soils.
2	Tertiary Pond Surface Impoundments	WMU Active Surface Impoundments	Active Surface Impoundments (Capacity) Pentagonal Pond - 7.5 acres (33,000,000 gallons) Rectangular Pond - 13 acres (50,000,000 gallons) Main Pond - 182 acres (700,000,000 gallons)	Leakage from the unit, defined as an increase above the Alternate Concentration Limits established in the 1988 Federal HSWA Permit were identified in the Spring of 1989.	Tertiary Pond Slurry Wall was installed to improve the stability of the dike between No. 6 Pond and the Rectangular and Pentagonal Ponds Tertiary Pond RGIS was installed to capture all groundwater leakage from the Tertiary Pond Surface Impoundments Tertiary Pond Shallow Purge Well (4293) was installed to capture seepage along the western margin of the Rectangular Pond Surface Impoundment	Active Surface Impoundments Operation, monitoring and maintenance activities are on-going for Tertiary Pond RGIS and Tertiary Pond Slurry wall. Shallow Purge Well 4293 has been decommissioned and on-going recovery monitoring is performed.
3	LEL Site I*	WMU	Located between 10th and 11th streets, G and J streets. A rail spur separates the site into two areas, north and south. Currently the north portion includes a truck parking lot and a vegetated storm water detention basin. The south portion is a vegetated storm water detention basin.	Former chlorinated phenolic compounds manufacturing area. Characterization of the site demonstrated elevated levels of 2,3,7,8-TCDD. In the north portion, the source is attributed to operations at the former tank farm where chlorinated phenols were historically produced (includes a shallow sump). In the southern portion, the source is attributed to demolition debris staged at the site from the former 2,4,5-trichlorophenol plant.	Based on the results of the site investigation, a slurry wall was constructed around the shallow sump on the northern portion of the site. Additionally, an asphalt cap was installed over a portion of the site (north) and the remainder of the northern portion and the entire southern portion was built into storm water detention basins. The site is located upgradient and shallow groundwater flows from northeast to southwest and is ultimately captured by RGIS.	Site was closed as a landfill and is subject to ongoing Operation, Monitoring and Maintenance. These activities include but are not limited to cap inspection, periodic hydraulic monitoring of the slurry wall, water level data, and hydraulic and chemical monitoring of the east side RGIS. See the LEL Site I CAMMP dated October 21, 2011 and the Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs for further details.
4	LEL Site II*	WMU	Site closed as a landfill in 1979 and the site is currently a vegetated cap that is mowed and maintained.	Former No. 2 Wastewater Pond for the equalization unit within the phenolic treatment process for chlorophenolic and chlorobenzene process wastewaters. A hydrogeologic study performed at the site concluded that the site may receive waters from and discharge waters to the surrounding environment (beyond existing slurry walls) which was likely related to the deeper sand lenses encountered in two areas and that significant infiltration was occurring through the existing clay cap.	Installed a slurry wall around the entire perimeter keyed into the natural, underlying clay and a vibrated beam slurry wall on two-sides where it was demonstrated that it was potentially insufficiently keyed into the clay layer, construction of a two-foot thick compacted clay cap, and the shallow groundwater is captured by RGIS.	Closed as a landfill in 1979 and is subject to ongoing Operation, Maintenance and Monitoring. These activities include but are not limited to cap and cap vegetation inspections, water level readings and routine maintenance of piezometers, and hydraulic and chemical monitoring of east side RGIS. See the LEL Site II CAMMP dated October 1, 2010 and the Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs for further details.

Table B2-1
Summary of Potential or Actual Sources of Contamination

WMU / AOC Number	Unit	WMU or AOC	Unit Characteristics (What unit is like today)	History of Release (includes brief site history & release/source description)	Interim Measures	Status
5	858 Building Area	AOC	Small area in the vicinity directly north and west of 858 Bldg and vertically confined in the surficial soils by the underlying clay between 12 and 15 feet.	Source material was discovered as a result of investigation of sewer infiltration in 1992-1993, not in response to a release. The specific source of release was not identified during the investigation.	A french drain and concrete collection sump were installed in 1994 in the area to recover free phase product.	Product recovery system - French Drain installed into the clay with a concrete collection sump. Product passively collects and a removal pump is operated manually to remove the accumulated product.
6	477 Building Area	AOC	Soil samples collected in 1983 and 1984 identified an area of high concentrations of 2,3,7,8-TCDD in the 477 Building area, which is located near 17th and G street at the Facility near the rail line.	Specific source of release is unknown. Release may be attributed to historical operations prior to licensing.	The 2,3,7,8-TCDD contaminated surface soil at the 477 Building area covered an area of approximately 800 square feet. Most of the immediately surrounding area was paved. Dow collected addditional samples of soil and then covered the 477 Building area with asphalt in October 1984.	Periodic inspections and maintenance, as needed.
7	DOS-20	AOC	2006 soil samples of site identified a location of atypically high dioxin TEQ near rail road tracks. An additional 9 soils samples were collected and used to define an area of approximately 1.5 acres in size that exhibited elevated concentrations at the surface. The area is bounded to the north by an active rail spur and formerly contained a portion of another rail spur. South of the area is bounded by an overhead pipe rack and concrete barriers.	Source of release is unknown.	The 1.5 acre area was stripped of the top approximately 6 inches of soil. It was then covered with both gravel, topsoil, and has been seeded.	Periodic inspections and re-grading, as needed.
8	Poseyville Landfill*	WMU	Currently a closed 88-acre landfill with a compacted clay cap. The cap is mowed and maintained.	Operated as a municipal landfill by the City of Midland beginning in 1940. Dow purchased the landfill and began operating it in 1955. Historical aerials indicate landfill operations proceeded from east to west. Landfill operations were discontinued January 5, 1981. Ongoing corrective action monitoring of the till sand strata has been occuring since the early 1980s.	Closure activities included the installation of a 1,500 foot long slurry wall keyed into the underlying clay and a leachate collection tile system installed around the perimeter of the landfill. The landfill has been capped, graded and a clay key placed around the site perimeter. Four purge wells were installed in the till sands to collect and prevent migration of the impacted groundwater. The impacted groundwater is piped to the WWTP for treatment and disposal.	Closed in as a landfill in 1981 and is subject to ongoing Operation, Maintenance and Monitoring. The till strata is hydraulically and chemically monitored on a periodic basis. The landfill cap and leachate system are routinely inspected. Corrective action monitoring is currently ongoing for the monitoring wells and four purge wells at the landfill. See the Poseyville Landfill CAMMP dated October 1, 2010 revised October 2011 and Attachment XIV.B5 Environmental Monitoring Programs for further details.
9	No. 6 Brine Pond (6-Pond)*	WMU	The 6-Pond is an inactive Brine Pond located on Dow property, bordered by the Tittabawassee River to the northeast, the Tertiary Pond (T-Pond) and Overlook Park to the south and Poseyville Road to the west. The pond was constructed on clayey soils of the south flood plain of the Tittabawassee River. Pond is presently used for storm water detention	Since the 1930s, the 6-Pond was used to contain accumulated spent brine until it could be re-injected back into the ground. The water level in the pond is typically above the shallow water table in the area and results in a mounding of the shallow water table directly beneath the pond. Shallow groundwater migration to the south is prevented by the presence of the T-Pond and slurry wall. This potential for "outward" shallow groundwater flow may have been responsible for historical chloride leakage from the pond. In response to the potential for 'outward' shallow groundwater flow, several corrective action measures were completed for the 6-Pond.	Installed sheet piling around the perimeter of the pond. Tiled groundwater collection system installed on the north, west and east sides of the pond and monitored for hydraulic and chemical parameters. A slurry wall was installed along the southern boundary of the 6-Pond between it and the T-Pond. Three purge wells were installed to contain or remediate the groundwater plume: two outside the western-central portion of the 6-Pond berm and one across Poseyville Road, further to the west.	The current water cap of the 6-Pond is maintained within working levels. The groundwater collection tile system is maintained and monitored routinely. Of the three purge wells, only one purge well is currently operational. One of the remaining two is dry, and the third purge well consistently demonstrated concentrations below relevant criteria. There are periodic inspections of the 6-Pond dike. 6 Pond Dike is a registered dam under Part 315 [Dam #2675]. Dam inspection and reporting by a licensed professional engineer occurs every 3 years.
10	Triangle Pond	AOC	The Triangle Pond is an approximately 10 acres located adjacent to the north/northeastern portion of the T-Pond, and is believed to have developed during construction of the T-Pond when what is believed to be an area of either magnesium salt or hydroxide deposits was visually identified and segregated where the Triangle Pond now exists. The Triangle Pond is currently capped by two feet of clay, covered with topsoil and grass.	The Triangle Pond was likely part of the T-Pond system constuction that occurred in 1974 and was designed to segregate an area of magnesium salt deposits that had been identified. The area was diked off from the larger T-Pond area using miscellaneous sand and clay fill material. There are no known releases from the Triangle Pond.	No further action at this time. Site-wide corrective actions include engineered groundwater controls preventing off-site migration. The Triangle Pond is contained within to the west-side RGIS.	Routine operation, maintenance and monitoring of the west-side RGIS is on-going.
11	Sludge Dewatering Facility	Closed WMU - Subject to Post-Closure Care	The Sludge Dewatering Facility was built in 1974 to perform treatment of plant sludge dewatering. It is located on a 37-acre site at the southeast corner of Salzburg and Saginaw Roads. The facility was comprised of seven cells, partitioned with compacted clay dikes.	No known release from the Sludge Dewatering Facility. Based on soil and groundwater sample analyses performed during the investigation prior to closure, the natural clay liner effectively served as a barrier preventing migration of hazardous contaminants from the impoundment. The July 1987 Closure Plan Submittal for the Sludge Dewatering Facility provides further details.	No interim measures have been performed at the Sludge Dewatering Facility. Closure as a landfill included a procedure to control hydraulic head and encapsulate and monitor the facility with the sludge in place. Individual french drain/collection tiles were installed for each containment cell. Each containment cell was capped with a composite system that includes vegetation, topsoil, sand drainage layer, high density polyethylene liner and compacted clay. The July 1987 Closure Plan Submittal for the Sludge Dewatering Facility provides further details.	No required corrective action at this time, other than ongoing site-wide environmental monitoring requirements. Details regarding the current status of the Sludge Dewatering Facility are included in Attachment XIV.A11 Closure and Postclosure Care.

Table B2-1
Summary of Potential or Actual Sources of Contamination

WMU / AOC Number	Unit	WMU or AOC	Unit Characteristics (What unit is like today)	History of Release (includes brief site history & release/source description)	Interim Measures	Status
12	Chemical Disposal Well No. 2*	WMU	CD2 is located within the Facility SWMU, the chemical disposal wells were closed between 1979 and 1983. Historically, Dow used deep well injection to dispose of selected process wastes. The chemical disposal wells were closed between 1979 and 1983.	Closed Injection Well	No further actions at this time.	No required corrective action at this time, other than ongoing site-wide environmental monitoring requirements
13	Chemical Disposal Well No. 3*	WMU	CD3 is located within the Facility SWMU on the west side of the facility along Poseyville Rd. The chemical disposal wells were closed between 1979 and 1983. Historically, Dow used deep well injection to dispose of selected process wastes. The chemical disposal wells were closed between 1979 and 1983.	Closed Injection Well. The potential for off-site flow from the area near CD3 to a storm water culvert was identified and a nearby monitor well demonstrated concentrations of chlorobenzene that exceeded MDEQ GSI criterion. Groundwater monitoring showed that the potential for off-site flow was periodic. Further characterization activites were completed and interim response activities were proposed and completed to address relevant exposure pathways.	An interim response activity was completed to eliminate risks due to groundwater and soil contamination for the on-site property (location of CD3), an adjacent Dow-owned property that is partially included within the Facility boundary and the land surrounding Poseyville Rd. These activities included the removal of storm sewers to eliminate the groundwater to surface water pathway; removal and disposal of 5,000 cubic yards of soil on the Dow East Property; and further groundwater analysis and evaluation to determine if the deep sand layer is impacted.	Additional monitoring and/or corrective action may be required.
14	Chemical Disposal Well No. 4 *	WMU	CD4is located within the Facility SWMU, the chemical disposal wells were closed between 1979 and 1983. Historically, Dow used deep well injection to dispose of selected process wastes. The chemical disposal wells were closed between 1979 and 1983.	Closed Injection Well	No further actions at this time.	No required corrective action at this time, other than ongoing site-wide environmental monitoring requirements
15	Chemical Disposal Well No. 5*	WMU	CD5 is located within the Facility SWMU, the chemical disposal wells were closed between 1979 and 1983. Historically, Dow used deep well injection to dispose of selected process wastes. The chemical disposal wells were closed between 1979 and 1983. When this well was closed, some soils were excavated and disposed of. The excavations were backfilled with clay and covered with vegetation.	Closed Injection Well	No further actions at this time.	No required corrective action at this time, other than ongoing site-wide environmental monitoring requirements
16	Chemical Disposal Well No. 8*	WMU	CD8 is located within the Facility SWMU, the chemical disposal wells were closed between 1979 and 1983. Historically, Dow used deep well injection to dispose of selected process wastes. The chemical disposal wells were closed between 1979 and 1983.	Closed Injection Well	No further actions at this time.	No required corrective action at this time, other than ongoing site-wide environmental monitoring requirements
17	East-Side Powerhouse Cooling Pond	AOC	Located in the southeast quadrant of the facility, situated within a triangular area bordered approximately by the CSX railroad lines to the south/southwest, South Saginaw Road to the east, and L Street to the north. The surface of the former cooling pond footprint is covered by pavement, vacant lots, gravel parking lot or buildings, some vacant and inactive. Also includes the 858 Building Area.	Former cooling pond area was formerly utilized for a cooling or "sluice" pond, located just southeast of the former South Side Power House, as well as an ash settling pond. Both ponds were used as part of the East Side Powerhouse (a.k.a., South Side Powerhouse) operation. Prior to being used for energy production this area was developed and used late in the 1930s as part of a larger pond. Other than the area used for the powerhouse, the purpose of the rest of the AOC area is undetermined.	Site-wide corrective actions include the South Saginaw Road Tile, an engineered groundwater control preventing off-site migration; Regional Aquifer monitoring to address potential for vertical migration and impact to deep groundwater; and aerial extent of the former cooling pond footprint is almost entirely covered with asphalt or some other form of paving, gravel parking lot or buildings.	This area houses several active production or service facilities. O&M for the South Saginaw Road Tile is on-going. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides details on the on-going monitoring.

Table B2-1
Summary of Potential or Actual Sources of Contamination

WMU / AOC Number	Unit	WMU or AOC	Unit Characteristics (What unit is like today)	History of Release (includes brief site history & release/source description)	Interim Measures	Status
18	Former Ash Pond	AOC	The Ash Pond, retired in the 1980s, covers approximately 23 acres of the northwestern-most area of the facility. Bordered on the north by a county drainage ditch, on the east by the Tittabawassee River, to the south by "D" and "E" streets, and to the west by Poseyville Road. The Ash Pond area itself is essentially a large depression surrounded by an earthen berm. Since the 1980s, it has returned to a wetland state and is heavily vegetated with cattails, marsh grass, and willow, with some evidence of standing water.	The Ash Pond was likely constructed in the 1940s-1950s for use as a cooling pond for cooling water prior to discharge to the Tittabawassee River. Over time the Ash Pond accumulated coal ash and slag that accompanied the cooling water from the coal-fired boilers in the West Side Power House. Use of the Ash Pond likely ended when the Power House was closed in the early 1980s.	Groundwater samples from Monitoring Well 6165 have identified arsenic concentrations greater than the Generic MDEQ Groundwater Surface Water Interface (GSI) Criterion. Additional activities will be conducted to address the former Ash Pond.	On-going quarterly monitoring occurs along the river by the Ash Pond. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details.
19	Diesel Tank Farm	AOC	This site is located on the west bank of the Tittabawassee River within the Facility, upstream of the dam.	Historically two fuel oil above-ground storage tanks were located in the area. The tanks provided fuel oil to a backup boiler located in Building 879. The historical operation of this above-ground storage tank system had the potential to have impacted the soil and groundwater. Soil and groundwater chemistry data indicated the presence of volatile and semivolatile organic compounds in the soil and shallow groundwater.	Completed further investigation of soils and shallow groundwater. Free product was found in several monitoring wells. Groundwater monitoring indicates various volatile organic hydrocarbons (including aromatic hydrocarbons), chlorinated solvents and their break down products, PNAs, chromium and lead are present in the shallow perched groundwater in low to trace concentrations. Concentrations of some constituents of concern exceed GSI criterion but not in wells at the GSI. The area is included in the Environmental Monitoring Program.	Controls have been installed to minimize potential migration. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details.
20	Old Outfall	AOC	The Old Outfall Area is located to the southeast of the Dow WWTP along the Tittabawassee River, adjacent to the Sand Bar.	A small area of elevated chlorinated benzenes (Soil Boring 5625) were discovered during the 1997 RGIS Upgrade adjacent to the Old Outfall.	Interim measures for the area of Soil Boring 5625 included the construction of a new steel sheet piling wall along the edge of the existing sand bar and the river. The wall is approximately 1,750 feet long with the sheet piling positioned 5-15' inland of the river's edge. The sand bar was reshaped to eliminate ponding and allow water to drain over the top of the new sheet piling. No new fill material was brough in and no excavated material was removed from the site. Additionally, a groundwater removal system (horizontal well) was installed to the depth of the clay till in the Sand Bar and connected to RGIS Lift Station #7, which has adequate capacity to allow for the addition of the water.	Controls have been installed to minimize potential migration. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details.
21	10th Street Abandoned Underground Utilities Area	AOC	This area is located along 10th Street in a small section of abandoned underground utilities.	Source of release is unknown. Small area discovered during underground utility abandonment in the early 1980s. Observations indicate greater than 1/8" thickness of product which is described in a manner consistent with chlorinated phenol tar.	Excavated soils were disposed of at the time of excavation. This area is located upgradient of RGIS.	This area is addressed through the ongoing hydraulic and chemical monitoring of the east side RGIS. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details.
22	Historical Manufacturing Areas	AOC	Historic chemical manufacturing areas are located on the G and H street blocks of 10th, 11th and 12th streets. This includes former manufacturing sites of chlorinated benzenes, oxides and phenols.	The specific source of release is unknown, however, it is likely related to manufacturing practices prior to licensing. Evidence of NAPL in an area of the surface fill observed from a test pit area east of the 11th Street and south of G Street, just north of the railroad tracks. An investigation was completed that included the advancement of 18 soil borings and the completion of 32 monitoring wells. The investigation identified several areas of elevated concentrations. Various chlorinated benzenes were identified as the constituents of concern.	As an interim measure, source control activities are ongoing to remove free product.	These areas are addressed through the ongoing hydraulic and chemical monitoring of the east side RGIS. Source control activities are ongoing with the manual removal of free product from roughly 6 wells in the area. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details.

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Summary of Potential or Actual Sources of Contamination

WMU / AOC Number	Unit	WMU or AOC	Unit Characteristics (What unit is like today)	History of Release (includes brief site history & release/source description)	Interim Measures	Status
23	**1925 Landfill***	WMU	The 1925 Landfill is included within the Facility SWMU. The Closed Diversion Basin and Open Wastewater Conduits, 703 Incinerator, 830 Incinerator, Waste Storage Area IIA, Waste Storage Area IIB, and LEL Site III all fall within the footprint of the 1925 Landfill.	Area of Closed Landfills and Surface Impoundments Closed with Waste in Place.	Clay cap, RGIS, and leachate removal system (8-Pond) (refer to the CAMMP).	Post-closure maintenance is performed in accordance with the October 1, 2012 CAMMP for the 1925 Landfill. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details.
24	Waste Storage Area I (1143 Building)	WMU Active Container Storage	Active Storage Area for Packs, Tanker Trucks, Isotainers, Roll-on/Roll-off Transport Boxes, etc. with a total storage design capacity of 443, 685 gallons	No known releases.	Not Applicable.	Active Container Storage Area No required corrective action at this time, other than ongoing site-wide environmental monitoring requirements
25	32 Pack Room	WMU Active Container Storage	Active Storage Area for Packs and Drums, with design capacity of 133,250 gallons	No known releases.	Not Applicable.	Active Container Storage Area
26	830 Pack Room (Overflow from 32 Pack Room)	WMU Active Container Storage	Active Storage Area for Packs and Drums with design capacity of 125,000 gallons, of which no more than 100,000 gallons may be liquid waste	No known releases.	Not Applicable.	Active Container Storage Area
27	32 Incinerator Offload/Storage Spots	WMU Active Container Storage	Active Container Storage with Design Capacity listed below <u>Dempsters Offload/Storage</u> LS-2010 (Spot 1) - 750 gallons LS-2020 (Spot 2) - 750 gallons <u>Dinos Offload/Storage</u> LS-2030 (Spot 3) - 2,500 gallons LS-2040 (Spot 4) - 2,500 gallons <u>Tanker Trucks/Isotainers Offload/Storage</u> LS-2050 (Spot 5) - 7,000 gallons LS-2060 (Spot 6) - 7,000 gallons LS-2070 (Spot 7) - 7,000 gallons LS-2080 (Spot 8) - 7,000 gallons LS-2090 (Spot 9) - 7,000 gallons LS-2100 (Spot 10) - 7,000 gallons	No known releases.	Not Applicable.	Active Container Storage Area
28	703 Tank Farm Offload/Storage Spots	WMU Active Container Storage	Active Container Storage with Design Capacity listed below <u>Dempsters Offload/Storage</u> LS-1202/2E (703 Spot 2) - 750 gallons <u>Dinos Offload/Storage</u> LS-1203/3E (703 Spot 3) - 2,500 gallons <u>Tanker Trucks/Isotainers Offload/Storage</u> SS-5E# (703 Spot 5) - 7,000 gallons SS-6E# (703 Spot 6) - 7,000 gallons SS-7E# (703 Spot 7) - 6,000 gallons SS-8E# (703 Spot 8) - 6,000 gallons LS-1213# (703 Spot 13) - 7,000 gallons LS-1214# (703 Spot 14) - 7,000 gallons LS-101/4E# (703 Spot 4) - 7,000 gallons	No known releases.	Not Applicable.	Active Container Storage Area
29	Rail Car Offloading to 32 Incinerator and Transferring Materials to/from Containers in 703 Tank Farm Spots Marked with a (#)	WMU Active Container Storage	<u>Rail Cars</u> LS-1215 (703 Spot 15) LS-1216 (703 Spot 16) Total Storage Design Capacity of 38,000 gallons	No known releases.	Not Applicable.	Active Container Storage Area
30	1163 Building	WMU Active Storage / Treatment Tank	Active Tank with Storage/Treatment Design Capacity: 1,800 cubic yards or 360,000 gallons 1,950 cubic yards/day or 400,000 gallons/day	No known releases.	Not Applicable.	Active Storage/Treatment Tank

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31	33 Building	WMU Active Storage / Treatment Tank	Active Tank with Storage/Treatment Design Capacity: 900 cubic yards or 181,800 gallons 1,950 cubic yards/day or 400,000 gallons/day	No known releases.	Not Applicable.	Active Storage/Treatment Tank
32	703 Tank Farm Storage Tank Systems	WMU Active Storage Tanks	Active Storage Tanks (Storage Design Capacity): V-101 (10,150 gallons) V-301 (18,700 gallons) V-302 (18,700 gallons) V-303 (18,700 gallons) V-401 (18,700 gallons) V-402 (15,900 gallons) V-403 (18,700 gallons) V-404 (18,700 gallons) V-601 (7,000 gallons) V-701 (7,000 gallons)	No known releases.	Not Applicable.	Active Storage/Treatment Tank
33	Chemical Disposal Well No. 1	WMU	CD4is located within the Facility SWMU, the chemical disposal wells were closed between 1979 and 1983. Historically, Dow used deep well injection to dispose of selected process wastes. The chemical disposal wells were closed between 1979 and 1983.	Closed Injection Well	No further actions at this time.	No required corrective action at this time, other than ongoing site-wide environmental monitoring requirements
34	Closed Diversion Basin and Open Wastewater Conduits	Closed WMU (Includes Diversion Basin (closed March 8, 1989), Open Wastewater Conduits (closed December 27, 1988), including Conduits A, B, C-1, C-2, C-3.	The Closed Diversion Basin and Open Wastewater Conduits were the former primary wastewater conveyance of the Facility waste water to the WWTP. The The Closed Diversion Basin managed untreated wastewater, which was temporarily diverted from the wastewater treatment plant. It also functioned as a surge pond, holding surface runoff collected from the manufacturing complex, and as an equialization pond. The closure of the diversion basin and the open wastewater conduits was certified by an independent registered professional engineer on December 27, 1988 and March 8, 1989, respectively.	Any releases to the Closed Diversion Basin and Open Wastewater Conduits would have occurred during the active live of the units by carrying facility untreated wastewater to the WWTP.	During closure activities, removed and disposed of waste, created vegetative cover and stone asphalt cover, and constructed drainage swales to divert stormwater. Attachment XIV.A11 provides the Closure and Postclosure Plans for this WMU. This area has been the location of the Reach D Containment area has been an authorized staging pile. Most recently, in accordance with R 299.9635, Dow has requested approval under Operating Permit Condition IX.C.5 for the post-closure use of the former Diversion Basin hazardous waste management unit for operation of a storage and treatment CAMU. The CAMU is proposed in addition to the Staging Pile that was previously approved by the MDEQ in accordance with License Part XI.U "Designation of Staging Pile" and Attachment 30 "Staging Pile Designation with Design Information", added September 30, 2009.	Post-closure maintenance is performed in accordance with the October 1, 2012 CAMMP for the 1925 Landfill. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details. Attachment XIV.A11 Closure and Postclosure Plans provides further information on this WMU.
35	Corrective Action Management Units (CAMUs)	WMU Designated CAMU	Designated CAMUs (Associated Storage Design Capacity) CAMU #1 and #2 - (26,500 cubic yards CAMU-eligible waste) CAMU #3 - (1,000,000 gallons CAMU-eligible waste liquids or other contaminated or noncontaminated runoff)	No releasess from the CAMUs.	Not Applicable.	Designated CAMU
36	703 Incinerator	Closed WMU - Closed as a Landfill, with 1925 Landfill CAMMP fulfilling Postclosure Care	703 Incinerator has been closed since 2003. It was demolished and the former location of the incinerator is now currently a vacant vegetated slope. It is located within the footprint of the former 1925 Landfill.	The 703 Incinerator operated until 2003 when it was replaced by the new 32 Building rotary kiln incinerator. There are no known releases from 830 Incinerator.	No further action at this time.	No required corrective action at this time, other than ongoing site-wide environmental monitoring requirements. Post-closure maintenance is performed in accordance with the October 1, 2012 CAMMP for the 1925 Landfill. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details.

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WMU / AOC Number	Unit	WMU or AOC	Unit Characteristics (What unit is like today)	History of Release (includes brief site history & release/source description)	Interim Measures	Status
37	830 Incinerator	Closed WMU - Closed as a Landfill, with 1925 Landfill CAMMP fulfilling Postclosure Care	830 Incinerator has been closed since 2003. It was decommissioned and the former location of the incinerator is now currently a vacant paved area. It is located within the footprint of the former 1925 Landfill.	The 830 Incinerator was operating from 1990 until 2003 when it was replaced by the new 32 Building rotary kiln incinerator. There are no known releases from 830 Incinerator.	No further action at this time.	No required corrective action at this time, other than ongoing site-wide environmental monitoring requirements. Post-closure maintenance is performed in accordance with the October 1, 2012 CAMMP for the 1925 Landfill. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details.
37	Waste Storage Area IIA	Closed WMU - Closed as a Landfill, with 1925 Landfill CAMMP fulfilling Postclosure Care	Closed former waste storage area (closure date is September 9, 2009). Located at the northwest end of former 1925 Landfill, south of J Street. As part of closure process, the three plastic, 3,000-gallon leachate storage tanks were decontaminated and prepared for reuse. The area was brought to grade and was covered with clean fill and gravel.	No known releases from Waste Storage Area IIA.	No further actions at this time.	No required corrective action at this time, other than ongoing site-wide environmental monitoring requirements. Post-closure maintenance is performed in accordance with the October 1, 2012 CAMMP for the 1925 Landfill. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details.
39	Waste Storage Area IIB	Closed WMU - Closed as a Landfill, with 1925 Landfill CAMMP fulfilling Postclosure Care	The former waste storage area was closed on September 30, 2011. It is located at the northwest end of former 1925 Landfill, south of J Street.	No known releases from Waste Storage Area IIA.	No further actions at this time.	No required corrective action at this time, other than ongoing site-wide environmental monitoring requirements. Post-closure maintenance is performed in accordance with the October 1, 2012 CAMMP for the 1925 Landfill. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details.
40	29 Building	WMU Active Waste Water Treatment Unit Exempt Tank	Hazardous waste tank built to manage pressed T-Pond biosolids that were dredged. Solids were loaded in this building and transported to the landfill. Tank was licensed in 2003, but was never used as a licensed Hazardous Waste Storage Tank. The status was changed to Waste Water Treatment Unit Exempt on March 20, 2012.	No releases from the 29 Building.	No further actions at this time.	Active Tank used for waste water management only and is Waste Water Treatment Unit Exempt under RCRA pursuant to 40 CFR §264.1(g)(6) and 265.1(c)(10). Post-closure maintenance is performed in accordance with the October 1, 2012 CAMMP for the 1925 Landfill. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details. No required corrective action at this time, other than ongoing site-wide environmental monitoring requirements.
41	NPDES Permitted Waste Water Treatment Plant	Active Waste Water Treatment Unit Exempt Units	Dow Michigan Operations Wastewater Treatment Plant (WWTP) consists of sumps, clarifiers, sewers, bio reactors, tanks, piping, fittings, flanges, valves, and pumps to pre-treat, treat, convey, distribute, meter, or control wastewater using the following unit operations: • Pretreatment • Equalization • Primary Treatment • Secondary Treatment • Digestion • Solids Dewatering • Tertiary Treatment • Diversion Storage	No releases from the Michigan Operations WWTP	No further actions at this time.	Active units of the Michigan Operations WWTP (other than the tertiary pond system) are considered wastewater treatment units, as defined in 40 CFR 260.10 and are exempt from Parts 264, 265 and 270 of the Resource Conservation and Recovery Act (RCRA). Therefore, wastewater treatment units are exempt from tank standards (Parts 264 and 265, Subpart J), fugitive emissions regulations (Parts 264 and 265, Subparts BB and CC) and permitting (Part 270), as given in 40 CFR 264.1(g)(6), 40 CFR 265.1(c)(10) and 40 CFR 270.1(a)(2)(v). This exemption includes all sumps, clarifiers, sewers, bio reactors, tanks, piping, fittings, flanges, valves, and pumps between the production facilities and the WWTP used to pre-treat, convey, distribute, meter, or control wastewater. Also included in the RCRA exemption are any on site storm water collection tanks, which are used to capture and store storm water that will be discharged to the WWTP in a controlled manner with no pre-treatment occurring in the collection tank.

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WMU / AOC Number	Unit	WMU or AOC	Unit Characteristics (What unit is like today)	History of Release (includes brief site history & release/source description)	Interim Measures	Status
42	Baker's Pond	AOC	Vacant grassy area with a chain link fence surrounding the site. Former wastewater pond that was filled in.	Area of former wastwater treatment pond closed with waste in place. Waste includes research waste containing radioactive isotopes: C-14, Sr-90 and uranium.	Former pond was filled, graded and a 14" clay cap was constructed over the area. A chain link fence was installed to minimize use of the area. Area has been released for unresetricted use under Title 10, Part 20, Subpart E.	Site is mowed and inspected as part of the 1925 Landfill CAMMP.
43	LEL Site III	WMU - Closed as a Landfill	After 1986, the general sewer, including LEL III, was converted from an open conduit to a closed 48-inch polyethylene pipe system. In 2012, the in-ground sewer system was replaced with an above-ground sewer system. Construction of on-site storm water detention areas including some cap enhancements to some areas of LEL III has been completed and approved by MDEQ.	Site was part of the general sewer which, prior to 1986, was an open conduit that served as a collection conduit for all the individual sewers for the on-site WWTP. Investigation identified LEL III as the source of organic material composed primarily of dipheyl oxide and lower chlorinated benzenes entering the WWTP. Prior to the corrective actions completed for LEL III, materials were observed to be seeping into the general open conduit sewer. As recently as 2010 (Dow, 2010) evidence has suggested on-going seepage into the 48-inch polyethylene pipe system replacing the former conduit. Additional corrective actions have been completed to address these findings.	Corrective actions completed for LEL III include the installation of a slurry wall system which was connected to existing containment features and keyed into underlying clay, construction of detention basins, localized enhancements to portions of the LEL III cap and surrounding areas through installation of HDPE liners where detention ponds were constructed. The open conduit system was converted to a 48-inch polyethylene pipe system. In 2012, the ground sewer system was replaced with an above-ground sewer system. Additionally, the site is located upgradient of the east side RGIS. A multi-well DNAPL recovery system began operations in 2014.	Closed as a landfill in 1988 and is subject to ongoing Operation, Maintenance and Monitoring in accordance with the LEL Site III CAMMP dated October 1, 2010. As a source control measure, a NAPL recovery system is planned to begin operations in 2013 at this site. Attachment XIV.A11 Closure and Postclosure Plans provides further details on this WMU. Attachment XIV.B5 Environmental Monitoring Programs provides information on the monitoring for this area.

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WMU / AOC Number	Unit	WMU or AOC	Unit Characteristics (What unit is like today)	History of Release (includes brief site history & release/source description)	Interim Measures	Status
	Other AOCs		Not included in the Facility SWMU			
44	US 10 Tank Farm**	AOC	The US-10 Tank Farm is an active tank farm that stores styrene. The tank farm is located directly to the east of and outside of the Dow's Michigan Operations facility.	In July 1986, a styrene storage tank (T-3) overflowed and spilled a total of 13,000 gallons of styrene monomer into a diked area that, at that time, had an earthen bottom. Immediate spill response activities included covering the spill with foam to minimize the potential for fire and reduce the level of fumes; water was added to float the styrene and minimize contact with the soil. All free liquid in the dike was pumped into tank trailers within 15 hours of the spill. Several days after the spill, styrene-impacted soils were identified and a temporary French drain was installed around tank T-3, which further recovered styrene.	A tiled groundwater collection system was installed around the property. Additionally, a permanent French drain was installed to replace the temporary French drain initially installed around T-3 immediately following the spill.	Perimeter tiled groundwater collection system and French drain tile system is operated and maintained to remove groundwater. Quarterly monitoring of the forwarding sump is ongoing. The Facility Sampling and Analysis Plan in Attachment XIV.B5 Environmental Monitoring Programs provides further details.
45	Chemical Disposal Well No. 9	WMU	CD9, closed in 1979, is not located within the Facility boundary, nor is it contiguous to the Facility.	Closed Injection Well	No further actions at this time.	No further action is required.
46	Pure Oil Site**	AOC	Located in the south half of Section 20 in Midland County between Poseyville and Patterson roads north of Dow's closed Poseyville Landfill, and covers approximately 8 acres. The site is now a flat vacant lot.	The site was formerly owned and operated as a refinery by the Pure Oil Company from 1936-1955, when the property was purchased by Dow. Upon acquisition, Dow used the site as a storage facility for hydrocarbons and Dow products, including crude oil (used in manufacturing processes), fuel oil, glycol ether (Dowanol TEH), propylene dichloride (PDC), and calcium chloride. The former tank farm was closed in the late 1970s and the tanks were removed. Also in the 1970s, visual observations of soil obtained from borings indicated migration of petroleum hydrocarbons through the shallow sand beneath the diked area. Various activities in the 1980s and 1990s revealed additional impacts to soils leading to the excavation, removal and disposal of impacted soils.	Corrective actions conducted at the Pure Oil Site include excavation and disposal of impacted soils. In 1986, a total of 12,021 cubic yards of material was removed and disposed of at Salzburg Landfill. In 1989, landfarming was initiated for an additional 117,200 cubic yards of hydrocarbon-impacted soils. In 1991, Dow excavated and disposed of approximately 5,000 cubic yards of PDC-impacted soils. Clean overburden was stripped back and stockpiled, impacted soils were excavated and clean soils were replaced in and over the excavaion and regraded. Contaminated soil was transported to the Salzburg Landfill.	There are no on-going corrective actions, monitoring or maintenance performed at the Pure Oil site.
47	Pure Oil Site - Former Fuel Pipeline**	AOC	Located between the former Pure Oil Refinery, extending eastward into the Midland Plant, running north of F street.	Excavation adjacent to the former pipeline was performed in 2012. Contamination adjacent to the pipeline was detected from soil samples collected adjacent to the pipeline in 2011. The release occured as a result of failure of pipeline integrity. Residual product was observed in the line during a partial removal in 2012 within the Poseyville Road right-of-way.	Corrective action included excavation and removal of the portion of the pipeline and surrounding soils within the Poseyville Road right-of-way in 2012.	There are no on-going corrective actions, monitoring or maintenance performed at the Pure Oil site.
48	Overlook Park**	AOC	Overlook Park is an observation hill constructed between 1973 and 1975. Located on the east side of Poseyville Road between East Miller Road and East Venture Drive. The park is privately owned and is situated on a 15.4-acre parcel.	Soils excavated during the construction of the Dow tertiary wastewater treatment pond (T-Pond) were deposited on the site to construct the observation hill, raising the grade to over 30 feet above natural elevation. A brine spill of 10,000 to 15,000 gallons was reported on April 8, 1980 from well 13S. A geophysical investigation indicated that brine-impacted soils appear to be present throughout a major portion of the Park. The investigation also indicated impacted soils are present in both native soils and the soils used to construct the observation hill and estimates concentrations as high as 10,000 ppm chloride may be present in a sand lens at the base of the observation hill. Additionally, groundwater concentrations exceeding the Generic Residential Drinking Water Criteria for iron, zinc, calcium, manganese, and chloride were detected in the 6158 cluster well located at Overlook Park. Groundwater samples collected downgradient of the 6158 cluster were below the Generic Residential Drinking Water Criteria; however, iron and manganese were detected above the Aesthetic Drinking Water Criteria.	Tiled groundwater collection systems are in place on and adjacent to the park. The groundwater from these systems is pumped to the Dow wastewater treatment facility for management. As part of the H-1 Till Sand investigation, Dow collected groundwater samples from the residential wells screened in the Till Sand along Freeman Drive. The analytical data were comparable to water quality found in the regional aquifer. Dow has also initiated a groundwater monitoring program for the till Sand in the vicinity of the Park.	On-going operation, maintenance and monitoring of the tiled groundwater collection system and the Till Sand groundwater monitoring program will be continued. A groundwater monitoring program and point of compliance for Overlook Park need to be established.

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49	Brine Site 4M (MDEQ Site GIII-26)**	AOC	Brine Site 4M is located on Dow property to the southeast of the intersection of Bay City and Saginaw Roads. The site is divided into three sections, 4M is located to the west of the Lingle drain, 4M East is located to the east of Lingle drain, and 4M North is located north of 4M and 4M East on the north side of the railroad tracks. The surrounding property is industrial to the south, west and east and residential to the north. The surface water bodies proximal to the site include the Lingle Drain running through the site from the northwest to the southeast and a drainage ditch coming from the north which drains into the Lingle Drain.	A 1986 report documents the results of a EM31 electromagnetic (EM) conductivity survey performed of the 4M Brine Site and the results revealed a chloride plume at the 4M site with the majority of the chloride located below the 5-ft depth near the former 4M brine well. Six purge wells were installed and upon approval of the proposed remediation plan, a tile system ws installed and documented in a September 12, 1988 report. In 2011, an additional investigation was performed of the site including another EM survey, and soil and groundwater sampling. Based on the results, the site was added to the Brine System Quarterly Groundwater Monitoring Program.	Added to Brine System Quarterly Groundwater Monitoring Program.	Ongoing Groundwater Monitoring is being performed.
50	Brine Site 32S (MDEQ Site GIV-17)**	AOC	Brine Site 32S is located on Dow property to the west of Poseyville road, north of the intersection of Poseyville and Gordonville Roads. The surrounding property is industrial to the south, and east; woodland and residential to the east; a park to the northwest; and baseball fields to the north. A few small ponds are located in the area surrounding the 32S well.	A 1988 report documents the findings of an EM survey conducted at the site that revealed a chloride plume having a vertical extent with the highest chloride values from 0 to 10 feet and decreasing chloride concentrations below 10 feet. Horizontally, the chloride plume consisted of two major lobes. The southern lobe originated at the 32S well site and trended to the east where it terminated and to the north where it turns into the norther lobe which centered immediately to the west of two brine storage tanks. In 2011, an additional investigation was performed of the site including another EM survey, and soil and groundwater sampling. Based on the results, the site was added to the Brine System Quarterly Groundwater Monitoring Program.	Added to Brine System Quarterly Groundwater Monitoring Program.	Ongoing Groundwater Monitoring is being performed.
51	Brine Site 13S (MDEQ Site GIII-27)**	AOC	Brine Site 13S is located on both Dow property and private property. The 13S brine well was located directly east of the intersection of Poseyville and Ashby road. The 13S remediation area includes the 13S well site, a section of property slightly north of the 13S well site and property to the east and west of Poseyville Road to the north. The surrounding property is industrial to the east; a park to the southeast; commercial and residential to the west; and industrial to the northwest. The surface water bodies near the site are the industrial ponds to the east.	A 1988 report documents the findings of an EM survey conducted at the site that revealed strong chloride anomalies at Overlook Park, near the 13S wells site and to the west across Poseyville Road in a low swampy area. A strong linear anomaly exists to the north along Poseyville Road spanning the area between the No. 6 Brine Pond and Poseyville Road. The 1988 report states that it is likely that most of the brine impact originated from three likely sources, the No. 6 Brine Pond, the soils used to construct Overlook Park, and partially from the operation of the 13S brine well. A deep tiling system was installed leading from Overlook Park and along Poseyville Road to intercept brine impacted water from the Overlook Park soils, the 13S well site, and the No. 6 Brine Pond. In 2011, an additional investigation was performed of the site including another EM survey, and soil and groundwater sampling. Due to the fact that the 13S well site lies between the No. 6 Brine Pond and Overlook Park it is believed that Brine Site 13S contributed little to the overall brine impact in the area. Soil conductivity values, groundwater chloride concentrations, and soil chloride concentrations are highest at Overlook Park and adjacent to the No. 6 Brine Pond. Based on the results, the site was added to the Brine System Quarterly Groundwater Monitoring Program.	Collection tiles were installed in 1988. Added to Brine System Quarterly Groundwater Monitoring Program.	Ongoing Groundwater Monitoring is being performed.
52	6 Pond Purge Wells**	AOC	This is a sand lends that extends from the Facility to a property West of Poseyville road.	Seepage of groundwater with diluted brines is suspected to have seeped from No. 6 Brine Pond into the groundwater adjacent to the WMU.	3 purge wells were installed to contain or remediate the groundwater plume. The purge water discharges to No. 6 Brine Pond.	Of the three purge wells, one runs continuously. One of the remaining two is dry and the other consistently demonstrated concentrations that were below relevent criteria.

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	River Corrective Action Areas included in Administrative Settlement Agreement and Order on Consent (US EPA Region 5, CERCLA Docket no. V-W-10-942)					
53	Reach B Area	AOC	Area consists of both an upland area (Former 47 Building) and a sediment area within the Tittabawassee River adjacent to the Main Plant with elevated dioxin and furan concentrations with co-located organic compounds. (Reach B).	Area was initially identified during river segment characterization in Reach B. Additional work was performed based on identification of contaminated debris during bank restoration.	In 2007 work as an IRA under the License was conducted at Reach B to remove about 19,260 cubic yards (cy) of soil and debris from the river bank where demolition material was identified and the bank was rebuilt. The debris was composed ofconcrete chlorine cell debris that was found to contain high concentrations of dioxins and furans. In 2009, additional removal was conducted in the Reach B river channel and an engineered sub-aqueous cap was constructed to contain any remaining debris and associated contaminated sediment.	Corrective actions are being performed in accordance with the Administrative Settlement Agreement and Order on Consent for Remedial Investigations, Feasibility Study and/or Engineering Evaluation and Cost Analysis and Response Design (US EPA Region 5, CERCLA Docket no. V-W-10-942)
54	Reach D Area	AOC	Sediment area within the Tittabawassee River adjacent to the Main Plant with elevated dioxin and furan concentrations with co-located organic compounds.	Area was discovered during river segment characterization in Reach D.	On July 12,2007 U.S. EPA and Dow entered into an AOC under the authority of Sections 104, 106(a), 107, and 122 ofCERCLAto conduct a time-critical removal action within the Reach D ofthe Tittabawassee River. Reach D was the location ofa historic water discharge flume that was once connected to an outfall at the Dow plant. Reach D sampling identified elevated concentrations of dioxins, furans and other contaminants. The work required under the AOC resulted in about 19,000 cy of impacted river sediment to be removed by dredging and properly disposed. In 2008, work at Reach D continued as an IRA under the License to construct an engineered subaqueous cap within the removal area over residual contamination. In 2009, an area ofdisturbed sediment was identified within the river channel caused by the temporary sheet piling installed during the sediment removal work. Monitored natural recovery was implemented and continues to be monitored for this area.	
55	Sediment Management Area (SMA) 1-1	AOC	Sediment area within the Tittabawassee River adjacent to the Main Plant	Area was discovered during river segment characterization.	Additional characterization completed. Based on results of sampling, no additional actions needed.	
56	SMA 1-2	AOC	Sediment area within the Tittabawassee River adjacent to the Main Plant	Area was discovered during river segment characterization.	An in-situ containment system consisting of a low permeability cap and sheet pile around sediments was constructed. Recoverable DNAPL was treated.	
57	SMA 1-3	AOC	Sediment area within the Tittabawassee River adjacent to the Main Plant	Area was discovered during river segment characterization.	An in-situ containment system consisting ofa low penneability cap and sheet pile around sediments was constructed. Recoverable DNAPL was treated.	
58	SMA 1-4	AOC	Sediment area within the Tittabawassee River adjacent to the Main Plant	Area was discovered during river segment characterization.	An in-situ geo-web was constructed over the sediments placed to facilitate accumulation of natural capping material to provide long term isolation and/or stabilization of underlying sediments.	
59	SMA 1-5	AOC	Sediment area within the Tittabawassee River adjacent to the Main Plant	Area was discovered during river segment characterization.	An in-situ containment cap composed of clean material was constructed over the sediments placed to provide long term isolation and/or stabilization of underlying sediments.	
60	SMA 1-6	AOC	Sediment area within the Tittabawassee River adjacent to the Main Plant	Area was discovered during river segment characterization.	Sub-divided into three sections, SMA 1-6U, SMA 1-6M, SMA 1-6L. For SMAs 1-6U and L, an in-situ containment system consisting of a low penneability cap and sheet pile around sediments was constructed. DNAPL recovered and treated from SMA 1-6U and L. For SMA 1-6M, an in-situ containment cap composed of clean material was constructed over the sediments placed to provide long tenn isolation and/or stabilization of underlying sediments.	

NOTES:
Those WMUs that were identified as SWMUs in the September 30, 1988 U.S. EPA, Region 5, Hazardous and Solid Waste Amendments (HSWA) Permit are marked with an asterisk (*)
Those AOCs that are not located within the Facility SWMU are marked with a double asterisk (**)

Table B2-1
Summary of Potential or Actual Sources of Contamination

Facility SWMU		
Irregularly shaped 1,900-acre site-wide waste management unit, with maximum dimensions of 11,000 ft x 18,500 ft; also contains the sub-units listed below:		
Unit	**Description**	**Dimensions**
LEL Site I (northern area)	source area vibrated beam slurry wall	470 ft x 24 ft
	LLDPE liner over source area	490 ft x 44 ft
	LLDPE-lined stormwater detension area	350 ft x 100 ft
	asphalt paved parking	330 ft x 300 ft
	irregularly shaped area of clean topsoil and vegegative cover	290 ft x 400 ft
LEL Site I (southern area)	clean topsoil and vegetative cover used as a stormwater detention area	530 ft x 430 ft
	L- shaped area in the southwest corner beneath the topsoil where asphalt cap remains in place	675 ft x 200 ft
LEL Site II	Irregularly shaped HDPE liner with clean soil and vegetative cover	1,880 ft x 550 ft
	bentonite slurry wall	4,580 ft
	southwest vibrated beam slurry wall	790 ft
	northeast vibrated beam slurry wall	325 ft
477 Building Area	asphalt pavement cap	20 ft x 60 ft
DOS-20	clean topsoil and vegetative cover	540 ft x 100 ft
Poseyville Landfill	compacted clay cap, clean topsoil and vegetative cover with leachate collection tile and three pumping stations	4,700 ft x 850 ft
	northeast corner slurry wall	1,780 ft
No. 6 Brine Pond	pond formerly used for brine storage consisting of one main pond and four ancillary ponds, surrounded by french drain, groundwater collection tile and three pumping stations	2,050 ft x 3,050 ft
Triangle Pond	Triangularly-shaped former pond capped by compacted clay cap, clean topsoil and vegetative cover	1,100 ft x 1,200 ft
Sludge Dewatering Facility	Irregularly shaped unit consisting of eight closed cells, capped with HDPE geomembrane, sand drainage layer, clean topsoil and vegetative cover. Each cell has an independent leachate collection system gravity draining to a central pumping station	1,200 ft x 1,200 ft
Chemical Disposal Well 2	closed chemical disposal well	Not Applicable
Chemical Disposal Well 3	closed chemical disposal well	Not Applicable
	northern source removal excavation with clean backfill	70 ft x 130 ft
	southern source removal excavation with clean backfill	55 ft x 60 ft
	pipeline corridor source removal excavation with clean backfill	20 ft x 380 ft
Chemical Disposal Well 4 CD	closed chemical disposal well	Not Applicable
Chemical Disposal Well No. 5	closed chemical disposal well	Not Applicable
Chemical Disposal Well No. 8	closed chemical disposal well	Not Applicable
East-Side Powerhouse Cooling Pond	Irregularly shaped, reclaimed unit formerly consisting of a number of sub-ponds	2,000 ft x 2,000 ft
	french drain, groundwater collection tile and pumping station (SSRT)	2,240 ft
Ash Pond	Irregularly shaped, partially reclaimed unit	1,500 ft x 2,100 ft
Diesel Tank Farm	Demolished fuel tanks, secondary containment and ancillary piping to package boiler	70 ft x 140 ft
Old Outfall	lateral containment steel sheet piling wall	3,575 ft
	horizontal well and pumping station	850 ft
Historical Manufacturing Areas	portion of the main plant facility containing a number of former chemical manufacturing plants and storage tank farms	1,560 ft x 1,650 ft

Table B2-1
Summary of Potential or Actual Sources of Contamination

1925 Landfill		
Irregularly shaped closed waste management unit, with maximum dimensions of 1,200 ft x 8,100 ft; also contains the sub-units listed below:		
Unit	**Description**	**Dimensions**
Diversion Basin	compacted clay cap, with clean topsoil and vegetative cover	1,050 ft x 475 ft
	Asphalt CAMU Containment Unit 1 (CU-1)	250 ft x 550 ft
	Asphalt CAMU Containment Unit 2 (CU-2)	140 ft x 150 ft
	Asphalt CAMU Containment Unit 3 (CU-3)	225 ft x 225 ft
Open Wastewater Conduit A Upper General Influent Conduit	compacted clay cap, with clean topsoil and vegetative cover	60 ft x 450 ft (east) 60 ft x 1,470 ft (west)
Open Wastewater Conduit B Phenolic Treatment System Influent Wastewater Conduit	compacted clay cap, with clean topsoil and vegetative cover	60 ft x 1,800 ft
Open Wastewater Conduit C-1 Lower General Influent Wastewater Conduit	compacted clay cap, with clean topsoil and vegetative cover	30 ft x 175 ft 30 ft x 1,030 ft
Open Wastewater Conduit C-2 Primary Wastewater Diversion Conduit	compacted clay cap, with clean topsoil and vegetative cover	60 ft x 1,500 ft
Open Wastewater Conduit C-3 Secondary Treated Wastewater Conduit	compacted clay cap, with clean topsoil and vegetative cover	60 ft x 420 ft
703 Incinerator	Somewhat irregular area covered with clean topsoil and vegetative cover	260 ft x 170 ft
830 Incinerator	irregularly shaped area with concrete and asphalt pavement	170 ft x 80 ft
Waste Storage Area IIA	demolished storage tanks and secondary containment	200 ft x 90 ft
Waste Storage Area IIB	demolished storage tanks and secondary containment	175 ft x 90 ft
29 Building	Steel building and concrete slab	70 ft x 70 ft
LEL Site III	Irregularly shaped area of compacted clay cap, clean topsoil and vegetative cover	1,300 ft x 450 ft
	Northwest slurry wall (discrete heights vary along the routing)	370 ft x 24 ft
	Southeast slurry wall (discrete heights vary along the routing)	520 ft x 24 ft
Other AOCs		
Unit	**Description**	**Dimensions**
US-10 Tank Farm	perimeter groundwater collection trench for hydraulic containment	450 ft x 250 ft
Chemical Disposal Well No. 9	closed chemical disposal well	Not Applicable
Pure Oil Site	demolished former refinery and tank farm	700 ft x 750 ft
Overlook Park	former brine pond sediments capped with clean topsoil and vegetative cover	680 ft x 860 ft
Brine Site 4M (MDEQ Site GIII-26)	historical brine spill	Not Applicable
Brine Site 32S (MDEQ Site GIV-17)	historical brine spill	Not Applicable
Brine Site 13S (MDEQ Site GIII-27)	historical brine spill	Not Applicable
6 Pond Purge Wells	three groundwater pumping wells	Not Applicable