Current Conditions Report

Pontiac North Campus
Volume I of IV

General Motors Corporation
Pontiac, Michigan

January 31, 2001

ENCORE

January 30, 2001

Mr. Peter Ramanauskas
United States Environmental Protection Agency
Region V
77 West Jackson Street
Chicago, ILL 60604-3590
DW-8J

Re: Voluntary Corrective Action Agreement GM Pontiac North Campus

Dear Mr. Ramanauskas

In accordance with the above captioned agreement I am forwarding the Current Conditions Report prepared by General Motors Corporation. As we discussed I am forwarding one copy, should you require additional copies please contact me.

Sincerely,

Keith West/mw

G. Keith West

encl

C: Jean Caufield w/attach
Anthony Thrubis w/attach

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1. Introduction

1.1 General

This Current Conditions Report (CCR) for the Pontiac North Campus, Pontiac, Michigan Site was prepared by ENCORE Environmental Consortium, LLC (EEC) (a consortium consulting group consisting of Blasland, Bouck, & Lee, Inc. [BBL], Conestoga-Rovers & Associates [CRA], and Haley and Aldrich, Inc.) for Environmental Corporate Remediation (ENCORE), a wholly-owned subsidiary of General Motors Corporation (GM, GMC).

On October 10, 2000, the U.S. Environmental Protection Agency (USEPA) and GM entered into a Voluntary Corrective Action Agreement for the GM Pontiac North Campus (hereafter referred to as the "Site"). The agreement calls for GM to work independently and voluntarily to investigate and, as necessary, stabilize and remediate releases of hazardous wastes or hazardous constituents at or from the Site in accordance with the Resource Conservation and Recovery Act (RCRA) and relevant USEPA corrective action guidance documents. This report was prepared and is submitted in accordance with Section V(1)(a) of the Voluntary Corrective Action Agreement.

The Site encompasses approximately 595 acres in the northwest quadrant of the City of Pontiac (Figure 1-1). This report covers four facilities, including:

- Chevrolet-Pontiac-Canada Group (CPC) Pontiac Fiero Assembly Plant (formerly GMC Fisher Body Division – Pontiac; USEPA ID No. MID 005356910);
- GMC Central Foundry Division - Pontiac Plant (USEPA ID No. MID 085470102);
- CPC - Pontiac (USEPA ID No. MID 005356886); and
- GMC Warehousing and Distribution Division (USEPA ID No. MID 076331289).

Each of these facilities is shown on Figure 1-2. Because Site operations have changed significantly in recent years, this report has grouped the operations according to current activities as follows:

- Fiero;
- Demolition Area (DA);
- Metal Fabrication Division (MFD);
- Powertrain; and
- Service Parts Operations (SPO).

Each of these operational areas are shown on Figure 1-3. Figure 1-4 provides an overlay of the facilities with the operational areas. A sixth sitewide area consists of the storm sewer system.

A wide range of automotive-related production processes have been performed at the Site since 1925, including car assembly, engine assembly, plating, heat treating, painting, metal stamping, machining, foundry operations, metal casting, and wastewater treatment operations.

1.2 Areas of Interest

Historically, two documents have been prepared regarding Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs). The first document, titled *Certification Regarding Potential Releases from Solid Waste Management Units, CPC Pontiac Facility (USEPA ID No. MID 005356886)*, was completed by GM at the request of the USEPA in February 1986 (GM, 1986c) (Appendix A). This survey included the current MFD, Powertrain, and portions of the DA operational areas and identified seven SWMUs.

The second document, a report entitled *Preliminary Assessment/Visual Site Inspection* (PA/VSI) *Report, General Motors Corporation, Pontiac Fiero Plant, Pontiac, Michigan* (hereafter referred to as the Fiero PA/VSI Report), was prepared in February 1992 by PRC Environmental Management, Inc. (PRC), under contract to the USEPA (PRC, 1992) (Appendix A). The Fiero PA/VSI Report identified a total of 11 SWMUs and/or other AOCs at Fiero (MID 005356910). PA/VSIs have not been performed at the other three facilities.

For the purpose of this RCRA Corrective Action at the Site, areas identified during prior investigations using terms such as SWMUs and AOCs have been re-identified using the single term Area of Interest (AOI).

Presented within this CCR are a total of 64 AOIs, which were identified in the following manner:

- Seven SWMUs identified by GM in the 1986 *Certification Regarding Potential Releases from Solid Waste Management Units* (GM, 1986c);
- 11 SWMUs identified by PRC in the Fiero PA/VSI Report (PRC, 1992); and
- 46 other AOIs identified by GM as a result of a thorough review of historical GM files, Freedom of Information Act (FOIA) requests to regulatory agencies, discussions with GM personnel, and multiple Site walkthroughs.

A description of each AOI is provided in Section 6 of this report.

1.3 Purpose and Scope

The purpose and scope of this report is to provide the following:

- Brief overview of the pertinent features of the Site;
- Brief summary of the regional setting of the Site;
- Review of available information concerning the current and historical uses of the Site for the treatment, storage, or disposal of hazardous wastes or hazardous constituents;
- Summary of previous investigations;
- Summary of remedial activities conducted at the Site;
- Identification of any AOIs that may warrant further investigation or evaluation; and
- Justification for no further action at other AOIs identified in this report that do not warrant further investigation or evaluation.

1.4 Document Organization

This document is organized into six main sections. Section 1 presents the background, purpose, and organization of the document. Section 2 presents a brief description of the Site, including Site location, historical and current operations, and historical and current waste management practices. Section 3 presents regional information pertaining to the Site, including surrounding land use, demographics, climate, geology, hydrogeology, and hydrology. Section 4 presents a listing of previous investigations conducted at the Site. Section 5 presents a listing of remedial actions conducted at the Site. Finally, Section 6 presents a description and summary of the various AOIs, organized by operational area. A list of references and acronyms used in the report are provided following Section 6.

Tables, figures, and appendices referenced throughout this document provide additional supporting information.

2. Description of Site

This section provides a general description of the Site location, historical and current operations at the Site, a review of historical topographic and Sanborn maps and aerial photographs, RCRA regulatory history, and historical and current waste management practices.

2.1 Site Location

Comprising approximately 595 acres, the Site is located in the City of Pontiac, Oakland County, Michigan (see Figure 1-1). The Site is bounded to the south by Montcalm Street, to the west by Baldwin Avenue and the Grand Trunk Western Railroad Line, to the east by Joslyn Avenue and a plant service road, and to the north by Walton Boulevard and the Grand Trunk Western Railroad Line. Surrounding areas consist of residential subdivisions and mixed commercial and light industrial use properties.

2.2 Current and Historical Operations

This subsection contains information regarding current and historical operations at each of the five operational areas at the Site as shown on Figure 1-3. Information regarding the Site prior to development in 1924 was not available.

Historically, a wide range of automotive-related production processes, including car assembly, engine assembly, plating, heat treating, painting, metal stamping, machining, foundry operations, metal casting, and wastewater treatment activities, have been performed at the Site. Currently, the Site is used for metal fabrication, warehousing, and engineering. Many of the plants have changed designations during the life of the facility. Table 2-1 presents a summary of historical and current plant designations and associated activities. The locations of the plants, with current designations, are shown on Figure 1-3.

2.2.1 Fiero

The Fiero operational area consists of approximately 81 acres located at the southwestern portion of the Site (Figure 1-3) and includes Plant 17. Currently, this area is used for prototyping, storage, and other non-production purposes.

Operations began at the Fiero facility in 1925 as the GMC Fisher Body Plant. This plant supplied closed-type automotive bodies for the Oakland Motor Car Company, located at the Site. In 1932, the Oakland Motor Car Company became the Pontiac Motor Division. In 1935, the original GMC Fisher Body Plant, located at the Site, combined operations with the GMC Fisher Body Pontiac Plant with operations consisting of metal fabrication, soft trim fabrication, and body assembly. In 1942, operations at the Fiero facility converted to defense production work, which included production of military vehicle parts.

The facility was modernized to a two-line automotive assembly operation from 1959 to 1961. In August 1982, the facility ceased operations, and the Pontiac Motor Division took possession of the Site and renamed it Fiero. From 1983 to 1988, the Pontiac Fiero was assembled in Plant 17 on a one-car assembly line. The plant was divided into a body shop, chassis department, paint shop, and trim department. Fiero assembly operations ceased in August 1988. Since 1988, the facility has been used for various non-production purposes, including storage and prototyping.

Current and historical wastes generated from car assembly at Fiero may have included scrap metal and metalworking fluids and oils (petroleum-based, oil-water emulsions, or synthetic emulsions), paints, paint solvents, and plasticizers. A wastewater treatment plant was in operation at the Site from 1973 to 1983 and managed wastewater, wastewater treatment sludge, paint sludge, and bonderite sludge.

2.2.2 Demolition Area (DA)

The DA consists of approximately 48 acres of the south-central portion of the Site. There are currently no buildings or operations within the DA portion of the Site. The three former main operational buildings (the Foundry [Plant 6], Final Vehicle Assembly [Plant 8], and Engine Construction [Plant 9]) were demolished in 1995, 1997, and 1997, respectively. Since 1996, the DA has been the subject of ongoing soil and groundwater investigations and various interim measures that will be discussed in Section 6. The former plant locations are shown on Figure 1-3.

Construction of the Foundry (Plant 6) and Final Vehicle Assembly Plant (Plant 8) took place from 1927 to 1929. During this time, operations within these plants included production of parts and cars for the Oakland Motor Car Company. Expansions of the Foundry took place in 1937, 1940, 1941, 1945, 1946, 1957, and 1962. Expansions to Plant 8 took place in 1956, 1960, 1962, 1963, 1964, and 1970. Fisher Body Division commenced construction of the Engine Construction Building (Plant 9) in 1925, with construction completed by the mid-1930s. Expansions to Plant 9 took place in 1945, 1954, 1959, and 1967. In 1987, operations in Plants 6, 8, and 9 ceased. Plant 6 was demolished in 1995, and Plants 8 and 9 were demolished in 1997.

West of the Foundry (Plant 6) is an area referred to as the West Yard (see Figure 1-3). The West Yard was used for material disposal activities, including foundry sand disposal, refuse disposal, sludge dumping, and trash burning. An area designated as the Railroad Marshalling Area, located along the western side of the West Yard, was used for temporary storage of railcars loaded with scrap metal prior to being shipped off site. Also located in the West Yard were the Flammable Liquids Storage Building, the Compressor Building, and the Salvage Building. The Salvage Building, which included a refuse incinerator, was constructed in 1945 to separate reusable material from unusable wastes. The Salvage Building was demolished in 1998. The Compressor Building was constructed in the early 1970s and subsequently demolished in 1998. Also located in this area are the Montcalm Substation and the former crane bay.

In the 1970s, the West Yard was divided between two GM business units. The eastern and central portion of the West Yard became a portion of the Central Foundry Division, and the western area became property of the Automotive Manufacturing and Support Operations (Pontiac Motor Division, later CPC). In 1982, CPC constructed a Hazardous Waste Storage Pad to store hazardous waste for periods greater than 90 days. Closure activities for the Hazardous Waste Storage Pad were initiated in July 1988 by CPC.

Current and historical wastes generated in the DA may have included wastewater (which may have contained cadmium and lead), calcium carbide desulfurization slag, baghouse dust, and foundry sand. Additionally, solvents may have been used for cleaning.

2.2.3 Metal Fabrication Division (MFD)

The MFD area consists of approximately 236 acres in the center of the Site (Figure 1-3). It also represents the most active area of the Site with regard to current manufacturing operations. Plants currently located in the MFD area include Plants 5, 11, 12, 14, 15, 23, 25, 33, 49, 56, and ELPO (electrodeposition). Also present in the MFD area is a wastewater treatment plant (WWTP), which is located directly west of Plants 5 and 23. The locations of each of these plants and the WWTP are shown on Figure 1-3. Table 2-1 provides a cross-reference of historical and current plant numbers.

Plant 11 currently is used for repair work and maintenance activities. Plants 12 and 56 are vacant in preparation for demolition. Plants 14, 15, 49, and the eastern portion of Plants 5 and 23 house pressed metal operations, maintenance operations, and other support activities. The eastern portion of Plants 5 and 23 also houses axle and differential operations. The western portion of Plants 5 and 23 is used to store miscellaneous machine parts and also contains a waste storage and accumulation area. Plants 25 and 33 are undergoing renovation.

A significant portion of the MFD area is covered with paved parking areas, roadways, pallet storage areas, and truck trailer storage areas.

Plants 5 and 56 were originally constructed in 1927 and were used for the storage and final shipping of automobiles for the Oakland Motor Car Company. By 1945, Plant 56, originally designated Plant 2, had been converted for metal plating operations, and Plant 5 had been converted for axle operations. Metal plating operations at Plant 56 ceased in 1987. Plant 11, originally designated as Plant 1, was constructed in 1945 as the heat treating plant. Expansions to these buildings took place in 1958, 1963, 1964, 1966, and 1969, with Plant 5 subsequently being subdivided into Plants 5 and 23.

The Car Storage and Shipping Building (Plant 12) was constructed from 1950 to 1951 and was expanded in 1963. Two pressed metal plants (Plant 14 and Plant 15) were added in 1951 and 1952, respectively. Plant 14 was expanded in 1966. Plant 15 was expanded in 1954 and 1966. The Car Finishing Plant (Plant 16) was added in 1954. Plant 16 has since been demolished. Plant 49 was constructed in 1965 as a storage and shipping plant with an expansion occurring in 1969.

A chassis parts and machining plant (formerly Plant 51, currently Plant 25) was constructed from 1967 to 1968 and expanded in 1971. In 1981, an engine plant (formerly Plant 55, currently Plant 33) was constructed adjacent to Plant 25.

The ELPO Building is divided into two operations, with the northern portion used for enamel, lacquer, painting, and phosphating operations and the southern portion used as a chemical storage room, a flammable materials storage room, and a paint mix room with painting booths. The ELPO Building was originally constructed in 1927 as the Frame Storage Building. It was used to introduce frames to Plant 8. In 1955, the southern portion of the ELPO Building was constructed as the Apprentice School. In the late 1970s, both sections were converted to their present usage of parts painting and storage.

In 1957, the on-site WWTP was constructed to treat alkali-oily wastewater and metallic wastewater. The WWTP treats both alkali-oily wastewater and strong metallic wastewater.

Current and historical wastes generated in the MFD area from metal finishing, electroplating, and painting/finishing may include solvents, paint-related wastes, and metal- and cyanide-containing wastes.

2.2.4 Powertrain

The Powertrain area consists of approximately 150 acres located along the eastern portion of the Site (Figure 1-3). The Powertrain area primarily consists of office space contained within the Powertrain Headquarters Building and the Powertrain Engineering Building. A gasoline underground storage tank (UST) farm and fueling station occupy the southwest corner of the Powertrain Headquarters Building. Test laboratories and office space were located in the Emissions Control Building. Paved parking areas and roadways occupy much of the land. A vacant area also exists where former Plant 18 was located (see Figure 1-3).

The Powertrain Headquarters Building was constructed in 1967, with a cafeteria adjoining the building constructed in 1990. The Powertrain Engineering Building was constructed between 1966 and 1970. A former car wash, located west of the Powertrain Engineering Building, was constructed in 1967 and was subsequently demolished in 1998. The Emissions Control Building was constructed between 1966 and 1970 and is still present.

On the west portion of the current Powertrain area, an Engine Plant (Plant 18) was constructed in 1942 and was expanded in 1953. Plant 18 ceased operations and was demolished in 1998.

Current and historical wastes generated at Powertrain may have included general trash and non-hazardous wastes, paint-related materials, waste solvents, laboratory wastes, batteries, and waste gasoline and diesel fuel.

2.2.5 Service Parts Operations (SPO)

The SPO area consists of 80 acres of land located at the northern portion of the Site (Figure 1-3) and includes Warehouse Storage and Shipping & Receiving operations and parts painting (Plant 75). The building and adjacent paved roadways and parking areas encompass nearly all of this area.

The eastern portion of Plant 75 was built in 1964. Several expansions of Plant 75 occurred until the 1990s.

Current and historical wastes generated at SPO may have included paint-related material, parts washer solvent, plant trash, light ballast, and scrap auto parts (including leaded batteries).

2.3 Historical Mapping and Aerial Photographs

Historical topographic maps, Sanborn maps, and aerial photographs from Site records were reviewed. A detailed summary of the information obtained from these documents is provided in Appendix B. In general, the topographic map and aerial photograph reviews show a progression of development of the Site, which included filling of low areas/wetlands and construction of plants/buildings.

2.4 RCRA Regulatory History

A history of the Site with respect to RCRA compliance activities for each of the four facilities shown on Figure 1-2 is chronicled below.

2.4.1 CPC Pontiac Fiero Assembly Plant of GMC (USEPA ID No. MID 005356910)

GM submitted a Notification of Hazardous Waste Activity (USEPA Form 8700-12) on August 8, 1980 (GM, 1980c) and a RCRA Part A Permit Application on November 11, 1980 (GM, 1980e). The Part A Permit Application listed the GMC Fisher Body Division Pontiac as a treatment, storage, and disposal (TSD) facility. The permit cited processes requiring container storage (S01), tank storage (S02), tank treatment (T01), and other treatment (T04). In the June 1985 revision to the Part A Permit Application, the name of the facility was changed to CPC Pontiac Fiero Assembly Plant of GMC (GM, 1985c).

A discussion of the Interim Status Units for the CPC Pontiac Fiero Assembly Plant of GMC is provided below. Available RCRA Part A Permit Applications and related correspondence are provided in Appendix C.

2.4.1.1 Container Storage

The container storage interim status unit was located outside Plant 17 in the southwest driveway adjacent to the railroad tracks. The container storage area had an 18,700 gallon capacity and was used to store F001, F002, F007, F008, F003, F005, F010, F011, F017, and D001 waste (GM, 1980c). GM removed all waste codes except D001 waste in the June 1985 Part A Permit Application revision (GM, 1985c). GM received clean closure for the container storage area in February 1988 (MDNR, 1988a). A new container storage area was constructed on the south side of the storage dock of the assembly plant to replace the former container storage area (GM, 1985c). The new area had the same storage capacity as the former area and was used to store D001, F001, and F003 wastes (GM, 1987i). A closure report for the new container storage area was submitted in January 1995 (RUST, 1995); however, GM has not received official notification of clean closure from MDEQ.

2.4.1.2 Tank Storage and Treatment

In the November1980 Part A Permit Application, the interim status units for tank storage (600,000 gallon capacity), tank treatment (768,000 gallons per day [gpd] capacity), and other treatment (3,501,600 gpd capacity) were related to the WWTP (GM, 1980e). The November 1980 Part A permit application cited 384,000 gpd wastewater treatment sludge dewatering, 3,110,400 gpd paint sludge dewatering, and 86,400 gpd bonderite sludge dewatering in the "other treatment" (T04) treatment category. The WWTP stored and/or treated F018, F006, F009, F017, and D002 wastes. The tank storage, tank treatment, and other treatment processes associated with the WWTP were removed from the Part A Permit Application in June 1985 due to the January 4, 1985 RCRA Amendments (GM, 1985c).

A new interim status unit for tank storage was included in the June 1985 Part A Permit Application revision. This interim status unit was the waste purge thinner UST, located north of Plant 17 and west of the paint mix building. This unit had a capacity of 12,000 gallons and was used to store D001 waste (GM, 1985c). This waste category was changed to F005 waste in the February 1986 Part A Permit Application revision (GM, 1986b). A closure report for the waste purge thinner UST was submitted in January 1995 (RUST, 1995); however, GM has not received official notification of clean closure from MDEQ.

2.4.2 GMC Central Foundry Division Pontiac Plant (USEPA ID No. MID 085470102)

GM submitted a Notification of Hazardous Waste Activity in August 1980 (GM, 1980a) and a RCRA Part A Permit application to the USEPA on November 17, 1980 (GM, 1980f). The Part A Permit application listed the GMC Central Foundry Division Pontiac Plant as a TSD facility. The permit cited processes requiring container storage (S01) and treatment (T04). The container storage and treatment area was located west of the northern end of the former casting plant. Baghouse dust (D006) was the only waste listed on the application.

In February 1981, GM received a letter from USEPA (waste analysis program) that the baghouse dust stored at the plant did not meet the definition of a hazardous waste under 40 CFR Part 261.24 (USEPA, 1981). The *Arc Furnace Baghouse Dust EP Toxicity Study* by Clayton Environmental Consultants, Inc. (CEC) confirmed the previous USEPA findings (CEC, 1981).

Based on the CEC report, GM withdrew the RCRA Part A Permit application in July 1982 (GM, 1982b). Based on the information submitted by GM, the USEPA (waste management branch) confirmed that the baghouse dust was not defined as a hazardous waste (40 CFR 261.3); therefore, they concluded that the facility was not required to have a hazardous waste permit under Section 3005 of RCRA (USEPA, 1983).

The RCRA Part A permit application and associated correspondence are presented in Appendix D.

2.4.3 CPC Pontiac of General Motors Corporation (USEPA ID No. MID 005356886)

GM submitted a Notification of Hazardous Waste Activity on August 8, 1980 (GM, 1980b) and a RCRA Part A permit application on November 18, 1980 (GM, 1980g). The Part A Permit Application listed the Pontiac Motor Division of GMC as a TSD facility. The permit cited process codes for container storage (S01), tank storage (S02), surface impoundment storage (S04), tank treatment (T01), surface impoundment treatment (T02) and other treatment (T04). The facility name was changed to CPC Pontiac of General Motors Corporation in the June 1985 Part A Permit application revision (GM, 1985b). A discussion of Interim Status Units for CPC Pontiac of General Motors Corporation is presented below. Available RCRA Part A Permit Applications and associated correspondence are provided in Appendix E.

2.4.3.1 Container Storage

In the November 1980 Part A Permit Application, container storage at the facility was listed with a total capacity of 222,100 gallons (GM, 1980g). According to the map included with the November 1980 Part A Permit Application, there were numerous container storage areas throughout the facility. These areas were used to store F001, F002, F003, D001, F005, F006, F012, F018, F007, F008, F009, F010, F011, and F017 wastes. The number of container storage areas was reduced in the September 1982 Part A Permit Application revision due to the removal of paint sludge from hazardous classification (GM, 1982c). The only container storage area that retained interim status was the barrel storage area located southwest of the former engine plant.

The barrel storage area was a diked, concrete pad with a storage capacity of 45,000 gallons and was used to store D001 waste. GM revised the Part A Permit Application in January 1986 to address revisions to the solvent listings. As a result, the F001, F005, and D008 wastes were cited for the barrel storage area (GM, 1986a). In November 1987, GM informed USEPA that they wanted to convert their hazardous waste operations to "generator only" status. GM indicated that they had recently enclosed a portion of their barrel storage area and that they intended to use the enclosed area for accumulation of hazardous waste (GM, 1987h).

2.4.3.2 Tank Storage and Treatment

In the November 1980 Part A Permit Application, the interim status units for tank storage (496,700 gallon capacity), tank treatment (3,000,000 gpd capacity), and other treatment (500 gpd capacity) were related to the WWTP (GM, 1980g). The WWTP interim status unit was removed from the Part A Permit Application in September 1982 based on exemption by rule for wastewater treatment facilities (GM, 1982c).

GM submitted a revised Part A Permit Application in March 1984 due to the construction of a 950 gallon bulk ignitable liquid storage tank adjacent to the Emissions Control building (GM, 1984a). This tank was subsequently removed from the Part A Permit Application in September 1986 because the tank storage was regulated under 40 CFR 262.34 and should not have been included on the Part A Permit Application (GM, 1986h).

GM submitted a revised Part A Permit Application in June 1985 due to the January 1985 RCRA amendments that defined recycled wastes as hazardous. A 7,000-gallon tank in the ELPO building was issued interim status (GM, 1985c). This tank was used to store thinner (F005 waste). The thinner tank was removed from the Part A Permit Application in August 1987 because it had not been used to store waste for greater than 90 days (GM, 1987f).

2.4.3.3 Surface Impoundment Storage and Treatment

In the November 1980 Part A Permit Application, interim status units for surface impoundments were listed with a total storage capacity of 7,507,000 gallons and a total treatment capacity of 100,000 gpd (GM, 1980g). These units were used for F001, F006, F012, F018, F007, F008, F009, F010, F017, and P030 wastes. The surface impoundment interim status units included various wastewater transfer sumps and two sludge consolidation areas.

The wastewater transfer sumps were located throughout the facility. The storage and treatment sumps were removed from the Part A Permit Application in September 1982 because they did not meet the definition of a surface impoundment (GM, 1982c).

One of the sludge consolidation areas was located adjacent to the container storage area in the southwest corner of the facility and had a capacity of 3,858,000 gallons. This sludge consolidation area was removed from the Part A Permit Application in September 1982 because it was no longer used (GM, 1982c).

The other sludge consolidation area was located adjacent to the WWTP and had a capacity of 240,000 gallons. On September 15, 1981, GM submitted a petition to USEPA to delist wastewater sludge from electroplating operations (F006), based on the characteristics of the sludge generated at the facility (GM, 1981b). On January 18, 1982, GM submitted a similar petition to the Michigan Department of Natural Resources (MDNR) (GM, 1982a). USEPA granted the facility a temporary delisting for F006 waste in November 1982 (USEPA, 1982c). MNDR issued the facility a redesignation of waste in June 1983 (MDNR, 1983a). As a result of the temporary exclusion granted by

USEPA, the WWTP sludge consolidation area was removed from the Part A Permit Application in September 1982 (it was also noted that the area should be classified as a waste pile [S03]) (GM, 1982c). In April 1986, the USEPA denied the facilities petition to delist wastewater treatment sludge from electroplating operations and indicated that the temporary exclusion would be revoked in May 1986 (USEPA, 1986). Because the electroplating sludge waste was no longer stored in the waste pile, GM did not submit a Part B Permit Application. Additionally, because the waste remained on-site for less than 90 days, GM did not submit a revised Part A Permit Application (GM, 1986g). In 1987, GM notified USEPA that the electroplating process had been removed and the electroplating waste was no longer generated (GM, 1987a).

2.4.4 GMC Warehousing and Distribution Division (USEPA ID No. MID 076331289)

GM submitted a Notification of Hazardous Waste Activity (USEPA Form 8700-12) on August 18, 1980 (GM, 1980d) and a RCRA Part A Permit Application to the USEPA on November 18, 1980 (GM, 1980h). The Notification of Hazardous Waste Activity listed GMC Warehousing and Distribution Division as a hazardous waste generator.

2.5 Historical and Current Waste Management Practices

This subsection presents a description of historical and current waste management practices.

2.5.1 Historical Waste Management Practices

Between 1926 and 1979, the northern portion of the Site in the vicinity of Plants 25 and 33 was used by GM for placing nonsalvage waste materials related to engine assembly, car assembly, foundry operations, painting and stamping, engine machining, metal plating, and wastewater treatment. In addition to the direct disposal of industrial process material into this fill area, waste was reportedly burned or partially burned at the salvage building incinerator and transported to the fill area for disposal. Waste disposal was also performed in the West Yard Area, and also included filling and burning of various waste products.

The WWTP, which began operations in 1957, has consisted essentially of two separate batch treatment systems. The first is for the treatment of metallic-acidic wastewaters, including hexavalent chromium, paint wastes, and powerhouse boiler blowdown. The second is for the treatment of alkali-oily wastewater. A separate WWTP was also in operation at Fiero from 1973 to 1983. The Fiero WWTP treated paint and bonderite sludge.

Process wastewaters from Plant 56 and Plant 5 were historically generated from the plating and axle manufacturing operations and were transported by overhead piping to the WWTP for treatment prior to discharge to the City of Pontiac publicly owned treatment works (POTW). When the electroplating operations were active, cyanide wastewaters were also treated by the WWTP. In 1987, GM ceased electroplating operations.

2.5.2 Current Waste Management Practices

Containerized non-hazardous wastes generated throughout the MFD area are transported to a waste storage area located in the western portion of Plant 23. Wastes are accumulated and shipped off site for disposal from this location.

Four satellite hazardous waste storage areas exist on site. The first is located in the ELPO Building, the second is located in the Powertrain Engineering Building, and two are located at Fiero. According to plant personnel, all hazardous wastes are shipped off site within three days of accumulation.

Sanitary and treated process wastewater and noncontact cooling water are discharged into the City of Pontiac sanitary sewer system. Storm water from the roofs of Site structures is directed through roof drains and downspouts to exterior Site surfaces or through underground piping to the storm-water sewer system. Most storm-water runoff from exterior Site surfaces flows into catch basins that discharge to the storm-water sewer system. There are five permitted storm-water outfall points from the Site: four discharge to the City of Pontiac Storm Sewer System, and one discharges to Harris Lake, as shown on Figure 2-1.

3. Site Setting

This section provides an overview of pertinent information on the regional and local setting of the Site. Section 3.1 provides relevant information regarding land use, Section 3.2 describes basic demographics within a 5-mile radius of the Site, Section 3.3 describes regional climate, Section 3.4 describes regional geologic conditions, Section 3.5 describes regional hydrogeologic conditions, Section 3.6 describes regional hydrologic conditions, Section 3.7 describes the Site geology, Section 3.8 describes the Site hydrogeology, and Section 3.9 describes the Site hydrology.

3.1 Land Use

The Site is zoned for industrial use, and areas surrounding the Site are zoned for a mixture of residential, commercial, and industrial use. Zoning determinations were based on a review of the City of Pontiac zoning map (Figure 3-1). The area south of the Site is occupied by two city parks (Perry Park and Oakland Park). The areas east and west of the Site are occupied by residential neighborhoods. Additionally, there is a residential neighborhood south of the SPO area in the northeast quadrant of the Site (Figure 1-3). The area north of the Site is occupied by a city park (Jaycee Park) and is also zoned for residential and industrial uses.

3.2 Demographics

Demographic information from the 1990 census indicated that approximately 14,300 people lived within a 1-mile radius of the Site, and approximately 109,800 people lived within a 5-mile radius of the Site (USEPA, 2000). More complete demographics information is presented in Appendix F.

3.3 Climate

Oakland County's weather is generally temperate, with an average winter temperature of 25.3° F and an average summer temperature of 70.2° F. The sun shines 38% of the time during the winter and 67% of the time in the summer. Average seasonal snowfall is 34.6 inches. Average annual precipitation is 29.7 inches with 58% (17.2 inches) occurring between the months of April and September. The average relative humidity for Oakland County is 80% (Feenstra, 1982). The prevailing winds are typically from the northwest in the winter months and the southwest in the summer months.

3.4 Regional Geology

Information on the regional geologic setting of the Site is based on published information.

East-central Oakland County is characterized by glaciofluvial deposits that are common to Oakland County. The regional overburden material consists of glacial till composed mainly of clay and some sands. Overburden material is regionally underlain by shales of Early Mississippian age.

3.4.1 Overburden

Continental glaciers advanced into this area of Michigan at least twice, once in each of the last two glacial stages of the Illinoian and Wisconsinan glaciers of the Pleistocene epoch. During the Wisconsinan stage, ice sheets of the Huron-Erie glacial lobe advanced from the southeast across the area of the Site. During the advance and retreat of this ice sheet, a series of end moraines (Fort Wayne, Defiance, and Birmingham) and a thick sequence of ground moraine (glacial till) composed of clay, silt, and rock fragments were deposited in this area. As the ice sheet retreated to the southeast, large volumes of meltwater formed glacial Lake Maumee between the Fort Wayne Moraine and the retreating glacier. The ice again advanced, forming the Defiance Moraine, and subsequently retreated, forming glacial Lake Arkona. As the ice advanced yet again from the east, the Birmingham Moraine was formed.

Pleistocene glaciation deposited glacial drift in a thickness of over 400 feet in parts of Oakland County. The buried bedrock surface is highly irregular. The Site is located in an area that is part of the lake plain of southeastern Michigan, formed by lakes that were ancestral to the present Great Lakes. Dunes, offshore bars, and lake-bottom sands, silts, and clays associated with the lakes are found in Oakland County. Figure 3-2 presents the regional surficial geology.

3.4.2 Bedrock

Oakland County is located along the southeast side of the Michigan Basin, a "bowl-like" feature in which the sedimentary rocks dip inward from all directions toward the center of the Southern Peninsula of Michigan.

The Coldwater Shale, of Early Mississippian age, is the first bedrock formation encountered in the area. The shale is primarily gray to dark gray. Other lithologies within this unit include red fossiliferous or nonfossiliferous shale, carbonate (limestone or dolomite), siltstone, and sandstone. Total thickness of the Coldwater Shale ranges across the Michigan Basin. In the vicinity of the Site, the unit may be up to 1,300 feet thick (Westjohn and Weaver, 1996). Located beneath the Coldwater Shale are sedimentary formations of the Berea Sandstone - Bedford Shale unit. Figure 3-3 presents the regional bedrock geology.

3.5 Regional Hydrogeology

Regional groundwater flow in both bedrock and glacial overburden appears to be predominantly to the east and south. Groundwater flow in glacial deposits in the Pontiac area is generally eastward towards local stream valleys, primarily the Clinton River (see Figure 3-6).

Groundwater resources in the Clinton River watershed exist in both the glacial drift and bedrock of the area. In the region surrounding the Site, groundwater is encountered in four general water-bearing units, as discussed in the following subsections:

- unconfined water table zone;
- glacial till aquifer(s);
- lower sand and gravel aquifer; and
- bedrock aquifer(s).

3.5.1 Unconfined Water Table Zone

The upper glacial till of the area contains an unconfined water table that is influenced by seasonal precipitation, local drainage patterns, and topography. The water table is located at a depth of approximately 10 to 30 feet below ground surface (bgs). The unconfined water table zone is not used for water supply purposes. The use of this zone as a potable supply would be generally prohibited by Michigan Department of Public Health regulations (Part 127 of Act 368 [Groundwater Quality Control], 1978) because it is at a depth of less than 25 feet.

3.5.2 Glacial Aquifer(s)

The regional glacial till is quite extensive, both areally and vertically. The glacial till moraines consist of poorly stratified clays, sand, and gravel that are not always continuous with depth. This material does not transmit large quantities of water and as a result, water bearing zones within this unit are not considered significant aquifers. However, in some areas, glacial outwash underlies the moraine material. In the vicinity of the Site, the outwash appears in a more complex, bedded sequence with the moraine. It is within these interbedded layers of outwash that larger quantities of water can be yielded over longer periods of time. Figure 3-4 identifies the Site within the regional aquifer characterization. As illustrated on Figure 3-5, impervious material (e.g., aquitards) may protect the lower, useable aquifers from surface contamination in the general vicinity of the Site (Western Michigan University, 1981).

3.5.3 Lower Sand and Gravel Aquifer

The regional lower sand and gravel aquifer is glacial outwash that generally consists of beds of well-sorted sand and gravel. This regional aquifer unit underlies the glacial till and the interbedded local outwash aquifers described above. Although the lower sand and gravel aquifer is not widespread throughout southeastern Michigan, it is prevalent throughout the region of the Site where the outwash is in distinct channels. This unit is considered the most important aquifer in the region because it provides storage for large quantities of water that can be used for both residential and industrial supplies.

3.5.4 Bedrock Aquifer(s)

On a regional basis, the Coldwater Shale and Bedford Shale are commonly considered nonproductive aquifers, typically yielding only small amounts of water. However, on a local basis, within parts of the region, the Coldwater Shale contains beds of sandstone. This occasional sandstone layer and the Berea Sandstone (where present) yield enough water for residential use. A more abundant water supply is found at impractical greater depths and with significant increases in mineral content.

3.6 Regional Hydrology

The Site is located within the Clinton River basin. The Clinton River basin drains an area of approximately 760 square miles, covering almost half of Oakland County and the majority of Macomb County to the east. The location of the Site within the Clinton River basin is shown on Figure 3-6. The Clinton River discharges into Lake St. Clair (approximately 25 miles to the east), which is used as a municipal drinking water supply for the City of Detroit.

Based on a review of the U.S. Geological Survey (USGS) Pontiac North Quadrangle map (USGS, 1983) (Figure 1-1), the nearest surface water bodies are Harris Lake, Terry Lake, and Osmun Lake, which are approximately 600 to 3,200 feet southwest to west of the Site, and the Clinton River, which is approximately 5,200 to 6,000 feet south to southeast of the Site.

Topography in the area of the Site is typically identified by relatively flat lake plain. This is separated from the undulating morainal hills of the northwest by relic beaches, which extend to the northeast.

3.7 Site Geology

Characterization of the overburden deposits at the Site have been limited to a few areas, mainly in the Powertrain and DA portions of the Site. Where information is available, the overburden at the Site is composed of fill materials underlain by sand or clay. These fill materials consist mainly of spent foundry sand that contains a variety

of debris including slag fragments and steel casings. Intermixed with the foundry sand is gravel, gray clay stringers, clayey fill material, and light brown sand. Fill material is typically encountered to depths of 4 to 14 feet bgs.

The fill material is underlain by either a sand or a clay unit. The sand unit contains lenses of silt or organic-rich peat and marl. The clay unit contains some interbedded sand lenses and silt, generally at depths of more than 14 feet bgs. Pebbles are often also encountered within the clay units. Local water well records indicate that the thickness of the clay unit in the vicinity of the Site ranges from 20 to 80 feet and that the clay is underlain by a sand and gravel unit that is approximately 20 feet thick. Fine-grained (e.g., silt or clay) and coarse-grained (e.g., sand or gravel) units alternate until bedrock is reached, at approximately 320 feet bgs.

3.8 Site Hydrogeology

Site groundwater is typically found at depths ranging from 10 to 20 feet bgs. Groundwater within this unit typically flows west-southwest, toward a series of small lakes (Harris Lake, Terry Lake, and Osmun Lake). Detailed Site-specific hydrogeologic information is restricted to areas of previous investigations, such as the West Yard portion of the DA.

Groundwater in the area near the Site is not currently used as a municipal water supply source. There are no municipal drinking water supply wells within a 5-mile radius of the Site (USEPA, 2000). The area surrounding the Site is on a municipal water supply from the City of Detroit (MDNR, 1987e). The nearest private well is approximately 5,000 feet from the Site (Superior, 2000).

3.9 Site Hydrology

Surface water drainage in the area surrounding the Site is to the west-southwest, toward a series of small lakes (Harris Lake, Terry Lake, and Osmun Lake) as shown on Figure 1-1. Site drainage is controlled by the paved surfaces and is typically directed to the storm sewer system.

4. Listing of Previous Investigations

This section provides a listing of the areas of the Site where previous investigations have occurred. It should be noted that all areas of the Site that were previously investigated are identified as an AOI, even if further investigations are not necessary. A detailed discussion of investigations for each AOI, if any, is presented in Section 6.

4.1 Fiero

Various investigations were conducted between 1986 and 1995 at the Fiero facility. These investigations consisted of:

- closure activities and additional subsurface investigation for the Container Storage Area (CSA) (AOI F-3);
- closure activities for the Closed CSA (AOI F-4); and
- closure activities for the Waste Purge Thinner UST and Three Product USTs (AOI F-6).

4.2 Demolition Area (DA)

Various investigations were conducted between 1971 and the present in the DA. These activities consisted of:

- various soil, groundwater, and light non-aqueous phase liquid (LNAPL) investigations in the West Yard (AOI W-1);
- various soil, chemical, and geotechnical and groundwater investigations in the area of the Former Hazardous Waste Storage Pad (AOI W-2);
- soil investigations related to the Former Plant 8 Flammable Liquids Storage Tank Farm (AOI W-3);
- wipe samples related to the polychlorinated biphenyl (PCB)-stained concrete floor of Plant 8 at Transformer Substation D-1 (AOI W-4);
- closure assessment for the Plant 9 Turbo Tank (Tank 9-1) (AOI W-7);
- various soil and groundwater investigations related to the Former Central Foundry (Plant 6), including closure assessment investigations (AOI W-9);

- soil and visual investigation related to the Railroad Marshalling Area (AOI W-10); and
- influent and effluent sampling during dumping at the Salvage Yard Sump Drain (AOI W-11).

4.3 Metal Fabrication Division (MFD)

Various investigations were conducted between 1985 and 2000 at MFD. These investigations consisted of:

- soil sampling adjacent to the WWTP (AOI M-1);
- residual material sampling in and around the Former Plating Operations Area (AOI M-2);
- various soil and groundwater investigations related to the Former Track 31 (AOI M-3);
- a soil and groundwater investigation in the vicinity of the Plant 25 Former Gasoline UST and Current Gasoline Aboveground Storage Tank (AST) Location (AOI M-4);
- a soil and groundwater investigation to characterize the material within the Former A-2 Fill Area (AOI M-5);
- analysis of spilled hydraulic fluid for PCBs at the Plant 5 Hydraulic Fluid Spill (AOI M-6); and
- a soil and concrete investigation at Track 26 (AOI M-15).

4.4 Powertrain

Various investigations were conducted between 1984 and 2000 at Powertrain. These investigations consisted of:

- various soil and groundwater investigations of the Powertrain Former UST Farm (AOI P-1);
- various soil and groundwater investigations of the Powertrain Existing UST Farm (AOI P-2);
- various soil and groundwater investigations of the Former Car Wash UST Farm (AOI P-3);
- various soil investigations of the Former Powertrain Used Oil UST and Utility Line (AOI P-4);
- a soil investigation of the Former Powertrain Stoddard Solvent UST (AOI P-5);

- a soil and groundwater investigation of the Former Emissions Control Building UST Farm and Stoddard Solvent AST (AOI P-6); and

- various soil and groundwater investigations of the Vacant Lot Former UST (AOI P-8).

4.5 Service Parts Operation (SPO)

The following investigations were conducted from 1991 to 1992 at SPO:

- a soil and groundwater investigation associated with the Former SPO Gasoline UST (AOI S-1); and

- a soil and groundwater investigation associated with the Former SPO Diesel UST (AOI S-2).

5. Listing of Previous Remedial Actions

This section provides a listing of the areas of the Site where remedial actions have occurred. It should be noted that all areas of the Site where previous remedial activities have occurred are identified as an AOI, even if further remedial activities are not necessary. A detailed discussion of remedial actions for each AOI, if any, is presented in Section 6.

5.1 Fiero

Several remedial actions and tank removal activities were conducted between 1986 and 1996 at Fiero. These activities consisted of:

- removal, transport, and disposal of wastes stored at the CSA (AOI F-3);
- closure and removal of the Closed CSA (AOI F-4);
- removal of the Waste Purge Thinner UST and Three Product USTs (AOI F-6); and
- removal of oily pea gravel, concrete, and debris from the Former Oily Gravel Area (AOI F-13).

5.2 Demolition Area (DA)

Various remedial actions and tank removals were conducted between 1971 and 1999 in the DA. These activities consisted of:

- removal of LNAPL from wells located in the West Yard (AOI W-1);
- remediation of leaking PCB transformers in the Compressor Building (AOI W-1);
- initiation of closure activities for the Former Hazardous Waste Storage Pad (AOI W-2);
- removal of PCB-containing transformer and 2 to 3 inches of concrete beneath the transformer at Transformer Substation D-1 (AOI W-4);
- removal of the Plant 9 Turbo Tank (Tank 9-1) (UST) (AOI W-7);
- remediation of resin spill in the Former Central Foundry (Plant 6) (AOI W-9);

- closure of the Former Central Foundry (Plant 6) (AOI W-9); and

- installation of the Railroad Marshalling Area Drainage System (AOI W-10).

5.3 Metal Fabrication Division (MFD)

Various remedial actions and tank removal activities were conducted between 1985 and 1996 at MFD. These activities consisted of:

- excavation of PCB-contaminated soil at the Former Track 31 (AOI M-3);

- removal of a UST and associated contaminated soils and installation of a hydrocarbon recovery system at the Plant 25 Former Gasoline UST and Current Gasoline AST Location (AOI M-4);

- removal of blacktop, concrete, and soil from the Plant 5 Hydraulic Fluid Spill (AOI M-6); and

- removal of soil and concrete potentially affected by the Plant 12 Transformer Oil Spill (AOI M-24).

5.4 Powertrain

Various remedial actions and tank removal activities were conducted between 1984 and 1999 at Powertrain. These activities consisted of:

- removal of a UST farm and excavation of contaminated soils associated with the Powertrain Former UST Farm (AOI P-1);

- removal of dispensing equipment and excavation of contaminated soils associated with the Powertrain Former UST Farm, at the location of the Powertrain Existing UST Farm (AOI P-2);

- removal of three USTs and excavation of contaminated soils associated with the Former Powertrain Car Wash (AOI P-3);

- removal of a UST and excavation of contaminated soils associated with the Former Powertrain Used Oil UST and Utility Line (AOI P-4);

- removal of a UST and excavation of contaminated soils associated with the Former Powertrain Stoddard Solvent UST (AOI P-5); and

- installation of recovery wells and removal of the USTs at the Former Emissions Control Building UST Farm and Stoddard Solvent AST (AOI P-6).

5.5 Service Parts Operations (SPO)

Two tank removals have been conducted in the SPO area. The activities consisted of:

- removal of an UST and excavation of contaminated soils associated with the Former SPO Gasoline UST (AOI S-1); and

- removal of an UST and excavation of contaminated soils associated with the Former SPO Diesel UST (AOI S-2).

5.6 Sitewide Storm Sewer System

The storm sewer system has been identified as an AOI due to the presence of PCBs. Remedial activities implemented to date include:

- cleaning of the storm sewer section that flows to the storm-water retention pond;

- removal of sediment from the storm-water retention pond; and

- upgrading of the storm-water treatment system.

6. Areas of Interest

This section provides a description and summary of Site AOIs. These AOIs were identified based on a review of available Site records, interviews with Site personnel, Site reconnaissance, historical investigations and remedial actions, the 1986 *Certification Regarding Potential Releases from Solid Waste Management Units* (GM, 1986c), the Fiero PA/VSI Report (PRC, 1992), and knowledge of past or present Site processes. AOIs were identified on the basis of whether a release of hazardous wastes and/or hazardous constituents to the environment had been determined to have occurred (i.e., prior documentation or verbal information) or was likely to have occurred (e.g., oil-saturated flooring or ground covering, staining of floor or ground surfaces coupled with cracks and holes in floor or ground coverings).

This section is organized with respect to the five operational areas that make up the Site, and a sixth area, which is the Site storm sewer system for Outfall 001:

- Fiero;
- Demolition Area (DA);
- Metal Fabrication Division (MFD);
- Powertrain;
- Service Parts Operations (SPO); and
- Site Storm Sewer System (Outfall 001).

These operational areas are illustrated on Figure 1-3.

A total of 64 AOIs have been identified, including various manufacturing processes and process components, process waste facilities, tanks, known or suspected areas of prior release of hazardous waste or hazardous constituents, waste handling areas, and prior remedial activities. A breakdown of the number and type of AOIs for each area is discussed below. Each AOI is discussed with respect to AOI description, historical and current operations, previous remedial investigations and actions, and current status, such as Further Action or No Further Action. Any AOIs designated as No Further Action either have approved Closures or can be visually inspected with little potential for historic releases to have impacted the surrounding area. Any AOIs not meeting these criteria have subsequently been designated as a Further Action AOI.

6.1 Fiero

There are 14 AOIs located within Fiero. The 14 AOIs in the Fiero area are shown on Figure 6-1 and consist of:

- six waste and/or container storage areas (AOI F-1, AOI F-2, AOI F-3, AOI F-4, AOI F-8, and AOI F-9);
- one former WWTP (AOI F-5);
- two UST or AST locations (AOI F-6 and AOI F-14);

- one wastewater collection sump system (AOI F-7);
- two fly ash storage silos (AOI F-10 and AOI F-11);
- one coal storage area (AOI F-12); and
- one former debris pile (AOI F-13).

These AOIs are summarized in Table 6-1 and discussed below. A listing of ASTs and USTs for the Fiero area is provided in Table 6-2.

6.1.1 Powerhouse Satellite Accumulation Areas (AOI F-1)

AOI F-1 consists of two satellite accumulation areas identified as SAA1 and SAA2, which are both located in the Powerhouse south of Plant 17. SAA1 was identified as a SWMU (SWMU 1) in the Fiero PA/VSI Report (PRC, 1992); therefore, it is considered an AOI.

SAA2 was not identified as a SWMU in the Fiero PA/VSI Report; however, it has been identified as an AOI due to its proximity to SAA1.

6.1.1.1 Historical and Current Operations

SAA1 is located in the basement of the Powerhouse and consists of one 55-gallon drum that stores waste paint thinner and is placed directly on the concrete floor. SAA1 has been active since August 1988, when Plant 17 ceased assembly operations.

SAA2 is located in the compressor room of the Powerhouse and consists of approximately fifteen 55-gallon drums that store waste oils. When a drum is filled, it is transferred to Plant 5 for disposal.

There have been no documented releases from either SAA1 or SAA2.

6.1.1.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted in association with SAA1 or SAA2.

The Fiero PA/VSI Report stated that no known releases had occurred from SWMU 1 (SAA1), and there were no visual indications of past releases (PRC, 1992).

6.1.1.3 Current Status

There have been no documented releases associated with either SAA1 or SAA2. During the August 2000 Site walkthrough, which evaluated potential AOIs for this report, both of the SAAs were observed to be in good condition (i.e., the concrete was not cracked, no extensive staining was observed).

Based on the visual Site walkover, documented releases, and information in the Fiero PA/VSI Report, **NO FURTHER ACTION** is recommended for AOI F-1.

6.1.2 Waste Gasoline Accumulation Area (AOI F-2)

AOI F-2 consists of a waste gasoline accumulation area located in the maintenance area of Plant 17. This area was previously identified as a SWMU (SWMU 2) in the Fiero PA/VSI Report (PRC, 1992); therefore, this area is considered an AOI.

6.1.2.1 Historical and Current Operations

The waste gasoline accumulation area consists of one 55-gallon drum used to store waste gasoline with the drum placed directly on the concrete floor. The Fiero PA/VSI Report stated that this area had been operational since at least August 1988, when the plant ceased assembly operations (PRC, 1992).

There have been no documented releases related to the waste gasoline accumulation area.

6.1.2.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted in association with the waste gasoline accumulation area.

The waste gasoline accumulation area was identified in the Fiero PA/VSI Report (PRC, 1992). At that time, there were no known releases in the area and the drum was observed to be in good condition. During an August 2000 Site walkthrough, the area indicated on the Site figure provided in the Fiero PA/VSI Report was located. However, there was no evidence of a waste gasoline accumulation area being present.

6.1.2.3 Current Status

The Fiero PA/VSI Report stated that there had been no documented releases from the waste gasoline accumulation area. Based on this information, **NO FURTHER ACTION** is recommended for AOI F-2.

6.1.3 Container Storage Area (CSA) (AOI F-3)

AOI F-3 consists of a CSA (RCRA Interim Status Unit) located outside on the south side of the storage dock of the assembly plant. This area managed both liquid and solid waste and was previously identified on the Part A Permit Application (GM, 1987i) and as a SWMU (SWMU 3) in the Fiero PA/VSI Report (PRC, 1992); therefore, the area is considered an AOI.

6.1.3.1 Historical and Current Operations

The CSA (RCRA Interim Status Unit) was constructed in July 1986 to replace the closed CSA (AOI F-4). The CSA managed both solid and liquid wastes generated from a number of areas in the Fiero assembly plant. The CSA consisted of a concrete pad that was approximately 65 feet by 90 feet, with a thickness of 8 inches. The area was partially bermed with 1- to 4-foot-high concrete berms. The pad's concrete joints are sealed and if a release occurred, it was routed through a collection sump to the existing WWTP located on the MFD portion of the Site. Wastes were stored in this area for greater than 90 days. Wastes included ignitable waste, chlorinated solvents, and various paint wastes. The maximum capacity of the CSA was three hundred eighty 55-gallon drums. When the Fiero plant ceased automobile assembly activities in August 1988, GM closed the CSA. Closure activities were completed in 1989 (Techna, 1990).

Two ASTs were located in a separately contained area in the southwest corner of the CSA. GM originally planned to use the tanks for waste oil storage but decided that the tanks were not required and they were never used.

There have been no documented releases from the CSA.

6.1.3.2 Previous Investigations and Remedial Actions

Previous investigations included a soil investigation as part of the CSA closure activities, and a supplemental soil and groundwater investigation. Remedial actions consisted of the CSA closure activities. Table 6-3 provides a summary of historical soil and groundwater analytical data.

Prior to closure activities, the wastes stored on the CSA were removed, transported, and disposed of at a hazardous waste treatment or disposal facility. GM cleaned and decontaminated the concrete pad, the collection sump, and the trench and piping.

Twenty-one confirmation soil samples were collected by Techna as part of the closure activities. Techna recommended additional investigation at the CSA because select volatile organic compounds (VOCs) (1,1,1-

trichloroethane, trichloroethane, tetrachloroethene, 1,1,2,2-tetrachloroethane, and 1,1-dichloroethene) in soil were above the applicable criteria at that time (Techna, 1990).

In August 1991, Testing, Engineers and Consultants, Inc. (TEC) conducted an additional subsurface investigation at the CSA (TEC, 1992). TEC collected 37 soil samples and three groundwater samples. Tetrachloroethene and 1,1,1-trichloroethene exceeded Michigan Type B soil criteria values. RUST concluded from the previous data that the VOCs present in soils below the CSA were most likely attributable to historical activities (RUST, 1995).

In January 1995, GM submitted a RCRA Closure Report for the CSA to MDNR (RUST, 1995). This report summarized the two previous investigations conducted at the CSA. MDNR sent a letter to GM on March 31, 1995 stating that the agency would begin review of the RCRA Closure Report in early 1996 (MDNR, 1995a). No further communication was noted in the files. The RCRA Closure Report is provided in Appendix G.

6.1.3.3 Current Status

A RCRA Closure Report for the CSA was submitted to the MDNR in January 1995 (RUST, 1995). GM will pursue final closure certification from the MDEQ. Based on the closure activities described previously, **NO FURTHER ACTION** is recommended for the CSA.

6.1.4 Closed Container Storage Area (CSA) (AOI F-4)

AOI F-4 consists of a closed CSA (RCRA Interim Status Unit) located outside Plant 17 in the southwest driveway, adjacent to the railroad tracks. This area managed both liquid and solid waste and was previously identified on the Part A Permit Application (GM, 1980e) and as a SWMU (SWMU 4) in the Fiero PA/VSI Report (PRC, 1992); therefore, the area is considered an AOI.

6.1.4.1 Historical and Current Operations

The closed CSA was in operation from before 1977 to August 1985. The closed CSA was situated on a bermed concrete pad. Wastes were stored in this area for greater than 90 days. Wastes included scraped sealers, adhesives, paint thinners, and waste solvents. The maximum capacity of the closed CSA was three hundred seventy 55-gallon drums. The closed CSA was dismantled, removed, and paved.

There were no documented releases from the closed CSA.

6.1.4.2 Previous Investigations and Remedial Actions

Previous investigations and remedial actions consisted of closure of the CSA.

GM submitted a closure plan to MDNR for the closed CSA in April 1986 (after the area was out of service) (GM, 1986b). Closure certification was submitted to MDNR in November 1986 (GM, 1986k). GM received clean closure certification of the area from the MDNR in February 1988 (MDNR, 1988a). The MDNR closure certification is provided in Appendix H.

6.1.4.3 Current Status

The closed CSA area terminated operations on August 15, 1985. GM received clean closure certification of the area from the MDNR in February 1988 (MDNR, 1988a). Based on this information, **NO FURTHER ACTION** is recommended for AOI F-4.

6.1.5 Former Fiero Wastewater Treatment Plant (WWTP) (AOI F-5)

AOI F-5 consists of the former Fiero WWTP located along Portland Street, 100 yards north of Owens Street. This area was identified as a SWMU (SWMU 5) in the Fiero PA/VSI Report (PRC, 1992); therefore, the former Fiero WWTP is considered an AOI.

6.1.5.1 Historical and Current Operations

The former Fiero WWTP operated from 1973 to 1983 (PRC, 1992). The location of the former WWTP was paved over and is used as a driveway. The former Fiero WWTP managed wastewater, wastewater treatment sludge, paint sludge, and bonderite sludge.

The Fiero PA/VSI Report (PRC, 1992) stated that there had been no documented releases from the former Fiero WWTP. According to plant personnel, the former Fiero WWTP was constructed of above-grade steel tanks situated on a concrete pad with secondary containment. Liquids from the plant were decanted to the City of Pontiac POTW. Solids from the plant were removed and placed directly into trucks for off-site disposal.

6.1.5.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the former Fiero WWTP.

6.1.5.3 Current Status

Based on the construction of the former Fiero WWTP on a concrete pad with secondary containment, **NO FURTHER ACTION** is recommended for AOI F-5.

6.1.6 Waste Purge Thinner UST and Three Product USTs (AOI F-6)

AOI F-6 consists of a waste purge thinner UST (RCRA Interim Status Unit) and three product USTs located north of Plant 17, directly west of the paint mix building. The waste purge thinner was previously identified on the Part A Permit Application (GM, 1985c) and as a SWMU (SWMU 6) in the Fiero PA/VSI Report (PRC, 1992). This area is considered an AOI because affected soils were discovered during UST closure activities in 1989 and because it was identified on the Part A Permit Application and in the Fiero PA/VSI Report.

6.1.6.1 Historical and Current Operations

The waste purge thinner UST (RCRA Interim Status Unit) was located in a tank farm north of Plant 17, directly west of the paint mix building. The three product USTs that stored xylenes, purge thinner, and cellosolve acetate were also located within the tank farm. The 12,000-gallon waste purge thinner UST was a single-walled steel tank. The system was located 3 feet below grade and was encased within 15 inches of reinforced concrete. The USTs were in operation from approximately 1969 to May 1989. The waste purge thinner UST received waste purge thinner from the paint mix building and two paint spray booths in the assembly plant. A licensed transporter removed the waste purge thinner from the tank every 60 to 90 days and transported it to an off-site reclamation center. A spill of 50 to 100 gallons of waste purge thinner occurred in August 1985. The USTs were removed in 1989.

6.1.6.2 Previous Investigations and Remedial Actions

Previous investigations included a RCRA closure investigation conducted during the waste purge thinner UST closure activities. The three product USTs were closed at the same time but were not required to be closed pursuant to RCRA, while the waste purge thinner UST was subject to closure under RCRA. Table 6-4 provides a summary of historical soil analytical results. Remedial actions included removal of the four USTs and adjacent soils.

Prior to removal of the USTs, the waste purge thinner and product were removed and hauled to an off-site licensed waste treatment facility. The four USTs were rinsed out and decontaminated. No holes, pits, or staining were noticed on the USTs after removal. However, during the UST removal process, solvent odors were noticed in the surface soils. Approximately 60 cubic yards of surface soil were removed and placed in roll-off boxes. The excavated soils were transported off site to a licensed hazardous waste disposal facility for disposal. Soil excavation was continued beyond visually affected surficial soils and stockpiled on the pavement near the tank

farm. VOCs were not detected above MDNR Type B Cleanup Criteria Standards in these soils and the soil was disposed of at the City of Pontiac Landfill (RUST, 1995).

Twenty confirmation soil samples were collected by Techna from the UST excavation (all four USTs). In addition, four borings were completed north of the tank farm area to determine area-specific background levels of metals in the surrounding soil. Soil underlying the tank farm exceeded typical background levels.

RUST concluded from Techna's data that the metals in the soil are typical of Michigan soils (RUST, 1995). RUST also concluded that waste purge thinner does not contain metal wastes that could be associated with the elevated levels of metals in the soil; therefore, these metals were not related to the waste purge thinner UST.

RUST concluded (RUST, 1995) the following from Techna's data:

- VOCs in the soil did not exceed the MDNR Type B cleanup criteria;
- VOCs were not detected in the soil near the waste purge thinner UST; and
- VOCs were below method detection limits in the approved closure plan.

In January 1995, GM submitted a RCRA Closure Report for the waste purge thinner UST to MDNR (RUST, 1995). This report summarized the previous investigation conducted at the UST. MDNR sent a letter to GM on March 31, 1995, stating that the agency would begin review of the RCRA Closure Report in early 1996 (MDNR, 1995a). No further communication was noted in the files.

6.1.6.3 Current Status

A RCRA Closure Report for the waste purge thinner UST was submitted to the MDNR in January 1995 (RUST, 1995), and GM will pursue final closure certification from the MDEQ. Therefore, NO FURTHER ACTION is recommended for AOI F-6.

6.1.7 Wastewater Collection Sumps (AOI F-7)

AOI F-7 consists of a series of wastewater collection sumps located underneath the basement of the Powerhouse, south of Plant 17. These sumps were identified as a SWMU (SWMU 7) in the Fiero PA/VSI Report (PRC, 1992); therefore, the sumps are considered an AOI.

6.1.7.1 Historical and Current Operations

The sumps have been in use since July 1973, and are used to collect industrial wastewater and water from outdoor and indoor collection drains throughout the Fiero portion of the Site. The wastewater is currently routed to the

WWTP located on the MFD portion of the Site. No known releases have occurred from the wastewater collection sumps.

6.1.7.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted in association with the wastewater collection sumps.

The sumps were inactive during the Fiero PA/VSI and were stated to be in good condition. During an August 2000 Site walkthrough, all the sumps were full of liquids and could not be inspected.

6.1.7.3 Current Status

There have been no known releases from the wastewater collection sumps. The Fiero PA/VSI Report stated that during the VSI the condition of the sumps were good. However, during the August 2000 site walk, these sumps were noted to be full of liquids and could not be inspected; therefore, **FURTHER ACTION** is recommended for AOI F-7.

6.1.8 Former Paint Sludge Storage Area (AOI F-8)

AOI F-8 consists of a former paint sludge storage area located north of the paint and mixing building. This area previously managed solid wastes and was also identified as a SWMU (SWMU 8) in the Fiero PA/VSI Report (PRC, 1992); therefore, the area is considered an AOI.

6.1.8.1 Historical and Current Operations

The former paint sludge storage area is 12 feet by 24 feet and consists of a concrete pad covered by a corrugated metal roof. There are no berms surrounding the storage area. The Fiero PA/VSI Report stated that if any spills occurred in this area, the spill would have been conveyed to the former wastewater treatment plant (PRC, 1992). This area was used between 1983 and 1988 to manage non-hazardous paint sludge and sludge from filter waste bonderite. The Fiero PA/VSI Report stated that observations made in February 1992 during the VSI indicated the concrete structure was in good condition and showed no evidence of a release.

The concrete pad is currently used to store road salt. The concrete pad was completely covered in road salt and the condition of the concrete was unable to be observed during the August 2000 Site walkthrough.

There have been no documented releases from the paint sludge storage area.

6.1.8.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted at the former paint sludge storage area.

6.1.8.3 Current Status

The Fiero PA/VSI Report stated that there had been no documented releases from the former paint sludge storage area and the concrete was observed to be in good condition with no evidence of a release (PRC, 1992). However, the pad is currently covered with salt and could not be inspected during the August 2000 walkover; therefore, **FURTHER ACTION** is recommended for AOI F-8.

6.1.9 Temporary Container Storage Area (CSA) (AOI F-9)

AOI F-9 consists of a temporary CSA located east of the powerhouse. This area was identified in the Fiero PA/VSI Report (PRC, 1992) as a SWMU (SWMU 9); therefore, the area is considered an AOI.

6.1.9.1 Historical and Current Operations

The Fiero PA/VSI Report stated that the temporary CSA was located east of the powerhouse (PRC, 1992). The area was used between August 1985 (when the closed CSA [AOI F-4] became inactive) and July 1986 (when the CSA [AOI F-3] became active). The PA/VSI stated that this area was used to store containers of waste gasoline, solvent, and paint wastes. According to Site personnel, the existence of the temporary CSA is questionable because Site records do not indicate operation of this unit (Appendix I).

There have been no documented releases from the temporary CSA.

6.1.9.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions conducted in association with the temporary CSA. During the VSI, PRC personnel could not inspect this area due to snow cover; however, the Fiero PA/VSI Report states that there was no evidence of any release controls (PRC, 1992). Based on the location provided on the figure in the Fiero PA/VSI Report, this area was inspected during the August 2000 site walk, with no signs of the reported CSA nor any evidence of past releases.

6.1.9.3 Current Status

The temporary CSA ceased operations in 1986, when the CSA (AOI F-3) began receiving waste. There were no documented releases from the temporary CSA, no evidence that the temporary CSA ever existed, and no visual signs of a release. Based on this information, **NO FURTHER ACTION** is recommended for AOI F-9.

6.1.10 High-Pressure Fly Ash Storage Silo (AOI F-10)

AOI F-10 consists of a high-pressure fly ash storage silo located east of the powerhouse. This area was identified as a SWMU (SWMU 10) in the Fiero PA/VSI Report (PRC, 1992); therefore the area is considered an AOI.

6.1.10.1 Historical and Current Operations

The high-pressure fly ash storage silo has been in operation since 1985. This storage unit consists of a capped concrete cylinder and is used to store non-hazardous high-pressure fly ash. The total capacity of the silo is between 500 and 600 tons. Ash is watered down during the transfer process to reduce dust.

The Fiero PA/VSI Report stated that thirty-seven 55-gallon drums were temporarily stored in this area during the closure of AOI F-4 (PRC, 1992).

There have been no documented releases from the high-pressure fly ash storage silo.

6.1.10.2 Previous Investigations and Remedial Actions

There have been no investigations or remedial actions conducted in association with the high-pressure fly ash storage silo. The Fiero PA/VSI Report stated that the silo was in good condition with no evidence of a release (PRC, 1992).

6.1.10.3 Current Status

The high-pressure fly ash storage silo has been in operation since 1985 and contains non-hazardous fly ash. There have been no documented releases. The Fiero PA/VSI Report stated that observations made during the VSI indicated the silo was in good condition with no evidence of release. Based on this information, **NO FURTHER ACTION** is recommended for AOI F-10.

6.1.11 Low-Pressure Fly Ash Storage Silos (AOI F-11)

AOI F-11 consists of two low-pressure fly ash storage silos located east of the powerhouse. The silos were previously identified as a SWMU (SWMU 11) in the Fiero PA/VSI Report (PRC, 1992); therefore, they are considered an AOI.

6.1.11.1 Historical and Current Operations

The two low-pressure fly ash storage silos have been used to store non-hazardous low-pressure fly ash since the 1940s. Each silo can store approximately 200 to 300 tons of fly ash.

The Fiero PA/VSI Report stated that there had been no documented releases from the low-pressure fly ash storage silos (PRC, 1992).

6.1.11.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted in association with the low-pressure fly ash storage silos. The Fiero PA/VSI Report stated that observations made during the VSI showed that the silos were in good condition with no indication of a release.

6.1.11.3 Current Status

The low-pressure fly ash storage silos have been in use since the 1940s to store non-hazardous low-pressure fly ash. The Fiero PA/VSI Report stated that there had been no documented releases from the silos and the silos were in good condition (PRC, 1992). Based on this information, **NO FURTHER ACTION** is recommended for AOI F-11.

6.1.12 Coal Storage Area (AOI F-12)

AOI F-12 consists of a coal storage area located southeast of the powerhouse. Also located within the footprint of the coal storage pile was the CSA (AOI F-3). This area is considered an AOI because of the materials handled in the area.

6.1.12.1 Historical and Current Operations

The coal storage area is used for stockpiling of coal for the Powerhouse. Historically, it has been reported that waste solvents may have been added to the coal to increase British Thermal Unit (BTU) value. The CSA (AOI F-3) also historically occupied a portion of this area.

6.1.12.2 Previous Investigations and Remedial Actions

There are no records of investigations or remedial actions performed for the coal storage area. For activities associated with the CSA, please refer to Section 6.1.3.

6.1.12.3 Current Status

This area is currently used to store coal with no records of previous investigations. Therefore, FURTHER ACTION is recommended for AOI F-12.

6.1.13 Former Oily Pea Gravel, Concrete, and Debris Area (AOI F-13)

AOI F-13 consists of an area that formerly contained oily pea gravel, concrete, and debris, located south of the assembly plant scale, at the northeast corner of Plant 17. This area is considered an AOI because of the historical presence of oily material.

6.1.13.1 Historical and Current Operations

The area that formerly contained oily pea gravel, concrete, and debris is currently a parking area. There are no records indicating where the oily materials originated or what the chemical composition of the material was.

6.1.13.2 Previous Investigations and Remedial Actions

There have been no previous investigations conducted in association with the oily materials. Remedial actions included removal of the oily materials in February 1996; however, there are no available records documenting these activities.

6.1.13.3 Current Status

The oily material was removed in February 1996; however, there is no documentation describing these removal activities or any analytical data for the soils remaining in place. As a result, **FURTHER ACTION** is recommended for AOI F-13.

6.1.14 Fuel AST Area (AOI F-14)

AOI F-14 consists of a fuel AST area located west of the low-pressure fly ash storage silos. The fuel AST area is considered an AOI because of the materials (diesel fuel and gasoline) stored in the ASTs.

6.1.14.1 Historical and Current Operations

AOI F-14 is composed of three ASTs: one 1,000-gallon AST for diesel fuel, one 300-gallon AST for diesel fuel, and one 560-gallon AST for gasoline. The diesel fuel ASTs were staged on a concrete pad with no secondary containment. The 300-gallon diesel AST and the 560-gallon gasoline AST were removed.

The 1,000-gallon diesel fuel AST is still in use, although it is located west of its former location. According to Site personnel, the tank was moved to its current location in 1998. At its current location, the 1,000-gallon diesel fuel AST is stored within a secondary containment area. According to Site personnel, this area previously held a sodium hydroxide AST and a sulfuric acid AST.

There have been no documented releases from the diesel fuel or gasoline ASTs in this area.

6.1.14.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions conducted in association with the fuel AST area.

6.1.14.3 Current Status

The 300-gallon diesel fuel AST and 560-gallon gasoline UST have been removed. The 1,000-gallon diesel fuel AST is still in use and is stored within a secondary containment area. There have been no documented releases from any of these ASTs; however, there is no documentation of closure activities for the removal of the ASTs. As a result, **FURTHER ACTION** is recommended for AOI F-14.

6.2 Demolition Area (DA)

There are 13 AOIs located within the DA. The 13 AOIs in the DA are shown on Figure 6-2 and consist of:

- a former fill area (AOI W-1);
- a former hazardous waste storage pad (AOI W-2);
- five former UST or AST locations (AOI W-3, AOI W-6, AOI W-5, AOI W-7, and AOI W-8);
- three electrical transformers (AOI W-4, AOI W-12, and AOI W-13);
- the former foundry (AOI W-9);
- the railroad marshalling area (AOI W-10); and
- a sump drain (AOI W-11).

Each of these AOIs for the DA is summarized in Table 6-5 and discussed below. A listing of ASTs and USTs for the DA is provided in Table 6-6.

6.2.1 West Yard (AOI W-1)

AOI W-1 consists of the West Yard, an area of approximately 20 acres located in the southwest corner of the DA. It is bounded to the south by Montcalm Street, to the west by the Grand Trunk Western Railroad, to the east by the former Foundry (Plant 6) and to the north by the former Plant 9 (demolished in 1995). The West Yard area also includes the former A-1 fill area. The former landfill and a former waste pile were identified as SWMUs by GM in the *Certification of Potential Releases from Solid Waste Management Units* (GM, 1986c); therefore, the West Yard area is considered an AOI.

6.2.1.1 Historical and Current Operations

The entire area of the West Yard was historically used for material management activities related to the automotive manufacturing and support activities and foundry operations at the Site. Disposal activities occurred in the West Yard from the 1940s until 1979 and included foundry sand disposal, refuse disposal, sludge dumping, and trash burning. Soil borings indicate that the foundry sand extends from the surface to a depth of 18 feet bgs. A Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (Section 103(c)) Notification was filed by GM in 1981, which indicated that past land use included the disposal of "organics, inorganics, and heavy metals" in this area until 1979 (GM, 1981a). GM also completed the *Certification Regarding Potential Releases from Solid Waste Management Units* in 1986. The CERCLA notification and the *Certification Regarding Potential Releases from Solid Waste Management Units* are presented in Appendix A.

During the 1940s, the Salvage Building was constructed to separate reusable/salvageable materials from unusable wastes. Wastes such as wood and cardboard ash from incineration were disposed in the West Yard.

The Compressor Building was located on the western boundary of the West Yard, immediately east of the Railroad Marshalling Area. The building contained two transformers, one inside the building and one immediately adjacent to it, that have been historically noted as leaking PCB-containing fluids.

After the complex was reorganized in the 1970s, part of the West Yard came under control of the Former Central Foundry (AOI W-9), while the rest of the West Yard came under control of the automotive manufacturing and support operations (originally the Pontiac Motor Division, later the CPC Division). CPC built and operated the Former Hazardous Waste Storage Pad (AOI W-2) on the western portion of the West Yard, which was used from 1982 through 1988 to support the automotive manufacturing and support services.

The West Yard has soils and groundwater that are known to contain organics and inorganics (i.e., heavy metals) due to disposal of wastes from the foundry, plating and polishing, and automotive assembly operations as reported in the *Certification Regarding Potential Releases from Solid Waste Management Units* (GM, 1986c). Light non-aqueous phase liquids (LNAPL) containing PCBs is also present in the West Yard. The area also contains a closed bermed settling basin (backfilled with sand) used for settling solids from water generated from foundry processes and a Railroad Marshalling Area Drainage System (AOI W-10) where railroad cars were used to load metal scrap for transport.

6.2.1.2 Previous Investigation and Remedial Actions

In 1996 and 1997, Parsons Engineering Science, Inc. (Parsons) conducted a review of historical field investigations. Parsons also conducted a field investigation in 1997 to further delineate contamination in this portion of the Site. As summarized by Parsons in its *West Yard Investigation Report* (Parsons, 1997b), various monitoring wells, geotechnical borings, test trenches, and soil borings were installed and sampled between 1988 and 1997. Included in the Parsons summary are historical investigations conducted by Dames & Moore and Groundwater Technology, Inc (GTI) with respect to the closure and decommissioning of the Former Hazardous Waste Storage Pad (AOI W-2). The Dames & Moore and GTI investigations are further discussed in Section 6.2.2 (AOI W-2). The Parsons' report is provided in Appendix J. Table 6-7 provides a summary of historical soil and groundwater analytical data with a comparison to current MDEQ Part 201 applicable standards.

The analytical results from the Parsons investigation are summarized below for both soil and groundwater.

Soil

Twenty surface samples were collected and analyzed for Target Compound List (TCL) VOCs, TCL semivolatile organic compounds (SVOCs), total PCBs, and Target Analyte List (TAL) metals. VOCs were detected in surface soil samples collected at the Site. Most VOC detections were below 79 micrograms per kilogram (ug/kg), with the exception of acetone, which was detected at a maximum concentration of 360 ug/kg. SVOCs were detected at a maximum concentration of 110,000 ug/kg. PCBs were detected at a maximum concentration of 3,100 ug/kg.

Various metals were also detected within the surficial soil samples. Manganese was detected in nine of the surficial soil samples at concentrations above the MDEQ Part 201 Criteria for the Generic Particulate Soil Inhalation Criteria.

Forty-eight subsurface soil samples were collected and analyzed for TCL VOCs, TCL SVOCs, PCBs, and TAL metals. VOCs were detected at a maximum concentration of 150,000 ug/kg. Generally, SVOC detections were below 480,000 ug/kg, although a maximum concentration of 1,100,000 ug/kg was detected for butyl benzyl phthalate, which exceeded the soil saturation (Csat) criteria. PCBs were detected at a maximum concentration of 43,000 ug/kg.

All results were below applicable criteria with the exception of butyl benzyl phthalate, which was detected once at a concentration above the Csat Criteria; PCBs and antimony, which were detected once at a concentration above MDEQ Part 201 Direct Contact Criteria; lead, which was detected at concentrations above the MDEQ Part 201 Direct Contact Criteria in three surficial soil samples; and manganese, which was detected at concentrations above the MDEQ Part 201 Criteria for the Generic Particulate Soil Inhalation Criteria in seven surficial soil samples.

Groundwater

Groundwater flow in the West Yard is generally to the southwest. The depth to groundwater varies from approximately 5 to 27 feet bgs and is present in the sand and fill zones underlain by a lower permeability clay zone. Groundwater samples were collected and analyzed for VOCs, SVOCs, PCBs, dioxins/furans, and metals. VOCs were detected at a maximum concentration of 310 micrograms per liter (ug/L). SVOC detections were generally below 50 ug/L, although a maximum concentration of 390 ug/L was detected for 2,4-dimethylphenol. PCBs were detected at a maximum concentration of 37 ug/L. Dioxins were detected at a maximum concentration of 0.00117 ug/L TEFs. The only constituents that exceeded applicable Part 201 criteria were vinyl chloride, which was detected once at a concentration above the MDEQ Part 201 Generic Groundwater Contact Criteria; and total PCBs, which were detected twice at concentrations above the MDEQ Part 201 Generic Groundwater Contact Criteria.

In January 1998, CRA initiated a bi-monthly LNAPL Recovery Program and Interim Remedial Measure (IRM). The IRM consisted of bail-down tests, sample collection and LNAPL removal activities from selected wells. Recovered LNAPL was containerized into 55-gallon drums, sealed, labeled, and disposed off site. The bi-monthly activities were conducted until August 1999. Currently, the LNAPL Recovery Program is conducted approximately monthly.

CRA performed an LNAPL investigation in 1999 to further delineate the nature and extent of LNAPL in the West Yard. The LNAPL investigation included the installation of soil borings and monitoring wells, LNAPL monitoring, the collection of soil samples, and the collection of LNAPL samples. The results of the LNAPL investigations are presented in the Draft LNAPL Delineation Report (CRA, 2000c; Appendix J). Figure 6-4 presents new and historical monitoring well locations where the LNAPL measurements were made. Soil and LNAPL analytical results are presented in the Draft LNAPL Delineation Report (CRA, 2000c).

LNAPL was also observed in the "Montcalm" well, which is located along the southern perimeter of the West Yard. The well is a former production well that is 13 inches in diameter and approximately 190 feet bgs. Investigations of the well performed by CRA determined that the LNAPL did not originate through migration from the surrounding soils in the West Yard (CRA, 2000c, draft). All LNAPL has been removed from the well, and the well is scheduled to be abandoned.

Figure 6-3 presents the estimated limits of LNAPL in the West Yard based on available information in CRA's report. CRA concluded from the investigation that there appear to be at least three sources of LNAPL present at the Site. CRA also concluded that the potential exists for further lateral migration of LNAPL based on the fill materials present at the West Yard.

Internal GM documentation (presented in Appendix J) reported historical issues with respect to leaking transformers in the Compressor Building. Transformer 451, located inside the Compressor Building, was noted as leaking on March 2, 1988, and was remediated daily (i.e., cleaned with solvents) until the leak was sealed on March 7, 1988. Transformer 450, located west of the Compressor Building, was noted as leaking on October 29, 1985, and was remediated daily (method of remediation unknown) until the leak was sealed on November 18, 1985. The transformers have been removed and the compressor building has been decommissioned and demolished. The concrete slab from the Compressor Building remains in place.

6.2.1.3 Current Status

Based on historical site usage and the data obtained during previous investigations indicating subsurface contamination, including the presence of LNAPL, **FURTHER ACTION** is recommended for AOI W-1.

6.2.2 Former Hazardous Waste Storage Pad (AOI W-2)

AOI W-2 consists of a former hazardous waste storage pad located in the western portion of the West Yard. This area is considered an AOI due to correspondence with the MDNR, as discussed under Section 6.2.2.3.

6.2.2.1 Historical and Current Operations

In 1982, a hazardous waste storage pad was constructed to store RCRA hazardous waste (RCRA Interim Status Unit). The hazardous waste storage pad is located immediately south of the former Salvage Building and west of the former Compressor Building. The pad is an approximate 27,000-square-foot, 8-inch-thick concrete pad with a 4-inch curb. Activities conducted on the pad included waste storage, drum washing, and empty drum storage. The pad was used for the storage of solid and liquid hazardous and non-hazardous wastes (i.e., paint, paint thinner, gasoline, chlorinated solvents, machine wastes, lead chips, and spent halogenated solvents) prior to July 1, 1988, at which time closure activities were initiated by CPC. As reported in the *Certification Regarding Potential*

Releases from Solid Waste Management Units, a waste pile containing WWTP sludge, machine sludges, and paint sludges occupied the storage pad from 1979 to 1981 (GM, 1986c).

6.2.2.2 Previous Investigations and Remedial Actions

Prior to pad construction, TEC conducted a soil/geotechnical investigation, the results of which are summarized in the report *Soil Investigation for Barrel Storage Area* (TEC, 1982). TEC stated that analytical testing was performed for chemicals and metals, although only select metals were presented in the report and the full analytical list was not provided. Based on the data, TEC concluded the soil could remain in place to allow for the construction of the Hazardous Waste Storage Pad. TEC's report is presented in Appendix K.

Closure plans were subsequently submitted by GM to MDNR in November 1987 (GM, 1987g), February 1988 (GM, 1988a), and May 1988 (GM, 1988c) to allow for the decommissioning of the pad. The MDNR rejected the first two closure plans, and in June 1988 approved the May 1988 plan (MDNR, 1988b). The May 1988 closure plan and MDNR's approval letter are presented in Appendix K. Closure activities conducted by Dames & Moore commenced in July 1988. As part of the decommissioning activities, Dames & Moore conducted two phases of soil sampling as summarized in the *Interim Closure Report - Former Container Storage Area* (Dames & Moore, 1989; Appendix K). It was noted in this report that the pad was heavily cracked and that much of the contamination was found in low-lying areas. All soil and groundwater samples were analyzed for lead, benzene, toluene, xylenes, 1,1,1-trichlorethane, methylene chloride, methyl ethyl ketone and 1-butanol. A summary of the soil and groundwater analytical results is presented in Table 6-8.

Dames & Moore reported in the *Endangerment Assessment - Former Container Storage Area* (Dames & Moore, 1990; draft) that there was a significant risk associated with the carcinogenic contamination. The estimated worst-case current use exposures and associated potential health risks were identified to be within the USEPA's target risk range.

GTI conducted a soil vapor extraction feasibility study that is summarized in both the *Subsurface Investigation and Soil Vapor Pilot Test - Feasibility Study* (GTI, 1990a) and the *Soil Vapor Pilot Test #2 – Feasibility Study* (GTI, 1990b). GTI installed several monitoring wells and obtained soil samples. Analytical results are summarized in Table 6-8. During a subsequent investigation, as reported in the *RCRA Pad Review - Hazardous Waste Storage Area* (GTI, 1991), it appears that GTI installed two additional monitoring wells, however well logs were not included. In this report, GTI summarizes the ongoing history of the hazardous waste storage pad without making any further discoveries in addition to those outlined previously.

A Parsons Site investigation conducted in 1996 and 1997 (Parsons, 1997b), which included AOI W-2, summarized historical investigations and remedial activities, concluding that it appeared infeasible to remediate the underlying soil and groundwater at the pad to the pad closure criteria. The Parsons investigation further stated:

The source of compounds in soils and groundwater under the pad most likely was not the activities at the pad, but historical waste management activities in the entire West Yard area associated with automotive manufacturing and support operations... GM agreed to conduct a West Yard area-wide investigation to evaluate the environmental conditions and assess the need for any appropriate corrective actions (Parsons, 1997b).

This conclusion is further supported by groundwater sampling and analysis conducted by Parsons in January 1996, which indicated that the LNAPL sampled from different wells originated from different sources and consisted of different concentrations and combinations of constituents (Parsons, 1997b).

6.2.2.3 Current Status

As outlined in a letter from the MDNR (MDNR, 1991), the former hazardous waste storage area did not meet "clean closure" criteria due to the unknown extent of contamination, and the inability of the proposed vapor extraction process to provide a final remediation. MDNR's letter is provided in Appendix K. GM previously reached an agreement with MDEQ that final closure of the pad would be granted upon implementation of remediation activities pertaining to historical impacts in the West Yard. GM will pursue final approval of the pad closure at an appropriate time. Based on this information, **NO FURTHER ACTION** is recommended for the hazardous waste storage pad.

6.2.3 Former Plant 8 Flammable Liquid Storage Tank Farm (AOI W-3)

AOI W-3 consists of a former flammable liquid storage tank farm located near the former Plant 8 in the northwestern corner of DA. This area is considered to be an AOI because of the materials historically stored in the former ASTs.

6.2.3.1 Historical and Current Operations

The former flammable liquid storage tank farm (tank farm) was historically used for the storage of flammable liquids, including diesel fuel, line thinner, gasoline, and solvents. The tank farm consisted of two separate areas, a north area and south area, each contained within a 3-foot-high dike. The condition or construction of the floor was not discussed in the available documents. The tank farm contained nine ASTs ranging in capacity from 13,000 to 26,000 gallons. The north section contained five ASTs and the south section contained four ASTs. Table 6-6 provides a summary of the tanks.

6.2.3.2 Previous Investigations and Remedial Actions

In the *Preliminary Soils Contamination Assessment - Plant 8 Flammable Liquid Tank Farm* completed by Keck Consulting Services (Keck) (Keck, 1984a), it was reported that many minor spills have occurred at the tank farm. The spills occurred during filling of the ASTs, when excess product in fill hoses was routinely drained inside the diked area surrounding the ASTs.

Keck evaluated the extent of fuel-contaminated soils in the *Preliminary Soils Contamination Assessment - Plant 8 Flammable Liquid Tank Farm* (Keck, 1984a) by placing eight soil borings and collecting soil samples for analysis. This assessment indicated that hydrocarbon-contaminated soil (concentrations not reported) was present from ground surface to depths of 8 to 16 ft bgs, where at six locations, a silt/clay layer was encountered. Keck concluded that the contamination had not entered the groundwater system because the clay layer was impeding the downward flow of the contaminants, and there was no evidence of hydrocarbon contamination in the deeper saturated sands of other borings. It was further recommended that the investigation be expanded in order to delineate the lateral extent of contamination outside the tank farm area. The 1984 assessment is included in Appendix L.

6.2.3.3 Current Status

The former flammable liquids storage tank farm has been decommissioned and demolished. There is no documentation indicating that recommended remedial investigations have taken place in the area of the tank farm nor is there documentation of the tank closure activities. Based on this information and historic information indicating subsurface contamination, **FURTHER ACTION** is recommended for AOI W-3.

6.2.4 Transformer Substation D-1 (AOI W-4)

AOI W-4 consists of transformer substation D-1, which was previously located in the southeast quadrant of the former Plant 8. This area is considered an AOI because of documented PCB transformer oil spills within the substation.

6.2.4.1 Historical and Current Operations

Transformer Substation D-1 was located within Plant 8 until it was removed prior to the demolition of Plant 8 in 1997.

6.2.4.2 Previous Investigations and Remedial Actions

As part of the demolition of Plant 8, PCB-containing transformers were removed from substation D-1 located within the plant. Following removal of the transformers, staining observed on the concrete floor was cleaned by the contractor who removed the transformers. Wipe samples taken after the spill cleanup indicated residual PCB contamination. Remedial actions were subsequently undertaken by SUNPRO and summarized in the *Final Report-PCB Remediation Substation D-1* (SUNPRO, 1996). The SUNPRO report is provided in Appendix M.

SUNPRO provided environmental remediation services in August 1996 to address residual PCB contamination after transformer decommissioning and removal. SUNPRO removed 2 to 3 inches of concrete from where the transformers were formerly located. Concrete removal was conducted under negative air to suppress dust migration during removal activities. Post remedial wipe sampling indicated compliance with the USEPA PCB cleanup requirement of less than 10 ug/100 cm^2.

6.2.4.3 Current Status

The transformer substation D-1 has been decommissioned and demolished. Cleanup activities relative to the concrete staining were completed in 1996 and met USEPA cleanup requirements. Based on this information, **NO FURTHER ACTION** is recommended for AOI W-4.

6.2.5 Plant 8 Basement AST Area (AOI W-5)

AOI W-5 consists of ASTs located in the basement of the former Plant 8. The basement AST area of the former Plant 8 is considered an AOI because of the materials (weak metallic wastewater, alkali wastewater, and unknown materials) historically stored in the former ASTs.

6.2.5.1 Historical and Current Operations

Undated CPC documents indicate that the basement of Plant 8 contained 17 ASTs, of which three had a capacity of 680 gallons, seven had a capacity of 7,400 gallons, and seven had a capacity of 11,300 gallons each. The documentation further indicates that 15 of the ASTs were empty, while two of the 7,400-gallon ASTs were used to store weak metallic wastewater and alkali-oily wastewater, respectively. This information is summarized in Table 6-6.

6.2.5.2 Previous Investigations and Remedial Actions

No documentation available.

6.2.5.3 Current Status

Plant 8 has been decommissioned and was demolished in 1997. There is no current information available on closure of the ASTs; therefore, **FURTHER ACTION** is recommended for AOI W-5.

6.2.6 Former Plant 8 Flammable Materials Storage Building (AOI W-6)

AOI W-6 consists of the former Plant 8 Flammable Materials Storage Building located in the northwestern corner of the DA, west of the Flammable Liquid Tank Farm (AOI W-3). This area is considered an AOI because of the materials (oils and glycols) historically stored in the building.

6.2.6.1 Historical and Current Operations

Undated documentation provided by CPC indicates that the Flammable Materials Storage Building housed 17 tanks containing oils and glycols, of which nine were 15,000-gallon tanks and eight were 22,000-gallon tanks. A summary of the tanks is presented in Table 6-6. The doors of the storage building were above ground level, causing the storage building to act as a diked area. The railroad and truck unloading areas contained catch basins that were connected to the WWTP.

The area is now vacant land.

6.2.6.2 Previous Investigations and Remedial Actions

No documentation available.

6.2.6.3 Current Status

The flammable materials storage building has been decommissioned and demolished. Portions of the building foundation remain in place. There is no information available on the closure of the tanks prior to demolition; therefore, **FURTHER ACTION** is recommended for AOI W-6.

6.2.7 Plant 9 Turbo Tank (Tank 9-1) (AOI W-7)

AOI W-7 consists of a turbo tank (Tank 9-1) that was previously located in the area immediately northwest of the former Plant 9. This area is considered an AOI because of the material historically stored in the UST.

6.2.7.1 Historical and Current Operations

Tank 9-1 was a registered UST installed as early as 1983, and was used for storing gasoline. Tank 9-1 is presented on the UST summary presented in Table 6-6. The 550-gallon UST was reportedly removed in June 1991, and was requested to be considered "closed" in an application to the Michigan State Police, Fire Marshal Division, Hazardous Materials Section, in three letters from CPC dated September 11, 1990 (GM, 1990), June 27, 1991 (GM, 1991), and March 6, 1992 (GM, 1992a). These letters are presented in Appendix N.

6.2.7.2 Previous Investigations and Remedial Actions

TEC's *UST Closure Site Assessment* could not be located but was mentioned in the letter from GM dated June 27, 1991 (see Appendix N). The TEC Tank 9-1 site assessment showed no contamination, and was therefore considered closed by CPC Pontiac.

6.2.7.3 Current Status

Based on the closure activities associated with the UST, **NO FURTHER ACTION** is recommended for AOI W-7.

6.2.8 Former Plant 9 Basement AST Area (AOI W-8)

AOI W-8 consists of 12 ASTs formerly located in the Plant 9 basement. This area is considered an AOI because of the materials (kerosene, coolants, and unknown materials) historically stored in the ASTs. Furthermore, during recent storm sewer cleaning activities, kerosene-like odors were observed in the section of storm sewer near former Plant 9.

6.2.8.1 Historical and Current Operations

According to undated CPC correspondence, the basement of Plant 9 contained 12 ASTs (ASTs 9-2 through 9-13). Of the 12 ASTs, five tanks (four 10,000-gallon, and one 6,400-gallon) previously contained kerosene, three tanks (two 1,4000-gallon and one 2,000-gallon) were empty, and four tanks (all 10,000-gallon) previously contained coolant. Table 6-6 presents a summary of the tanks formerly contained in the basement of Plant 9.

6.2.8.2 Previous Investigations and Remedial Actions

No documentation available.

6.2.8.3 Current Status

All tanks have been removed and Plant 9 has been decommissioned and demolished. However, there is no documentation on the closure of the ASTs. Kerosene-like odors have also been reported in the storm sewers in this area. As a result, **FURTHER ACTION** is recommended for AOI W-8.

6.2.9 Former Central Foundry (Plant 6) Resin Spill and UST (AOI W-9)

AOI W-9 consists of the former Central Foundry (Plant 6) previously located in the southeast corner of the DA, which was bordered on the south by Montcalm Street, on the west by the West Yard, on the east by Glenwood Avenue, and on the north by Plant 9. The former Central Foundry Building covered approximately 900,000 square feet. This area is considered an AOI because of the historical use of PCBs in the foundry, a resin spill that occurred in the plant, and a former 20,000-gallon tank that was located in this area.

6.2.9.1 Historical and Current Operations

The foundry was originally built for the Oakland Motor Car Company and was later transferred to Pontiac Motor Division around 1932. Major modifications to the foundry included the installation of a rotary mechanical iron pourer and a new mold line. The foundry produced iron from metallic ore, which was cast into automotive parts, such as cast iron engine blocks and heads. The Pontiac Central Foundry ceased production and closed in May 1987 and was demolished in April 1995. Foundry sand from the plant was used as fill material in the West Yard as discussed in AOI W-1, and was also reportedly disposed off site in at least one former Oakland County Landfill.

6.2.9.2 Previous Investigations and Remedial Actions

On November 17, 1980, GM filed a RCRA Part A permit application for the GM Central Foundry Plant (MID 085470102) (GM, 1980f). The only waste listed on the application was baghouse dust (code D006) from the facility's electric arc melt furnaces. The RCRA Part A permit application and associated correspondence are provided in Appendix D.

The RCRA Part A permit application was withdrawn on July 12, 1982 on the basis that the baghouse dust was not a hazardous waste under 40 CFR part 261 (GM, 1982b). A March 29, 1983 letter from USEPA acknowledged the withdrawal of the RCRA Part A permit application (USEPA, 1983).

In 1985, a resin spill occurred in Plant 6. The resin storage building was located in the northwest quadrant of the foundry. Within the resin storage building there were two 6,000-gallon tanks located on a steel grilled floor, each positioned over a sump designed to contain spills and overflows. During the summer of 1985, it was discovered that the sumps were leaking resin, and the situation was reported to the MDNR.

Between August and December of 1985, Schleede-Hampton Associates Inc. (SHA) performed a preliminary exploration of the area surrounding the resin storage facility to determine the soil conditions and the extent of resin contamination in the area. SHA concluded that the resin constituents are confined to the area within approximately 20 feet of the resin storage building. Based on the information gathered during this exploration, a work plan for the cleanup was developed. This work plan is presented in the report entitled *Department 671 Resin Storage Facility - Outline for the Design of a Remedial Action Program* (SHA, 1985). This report contains the preliminary exploration information as well as guidelines for further soil sampling exploration. It was approved by the MDNR on February 11, 1987 (MDNR, 1987a).

In a letter to the MDNR dated July 1, 1987, GM noted that the implementation of the 1985 work plan was scheduled to begin on July 6, 1987 (GM, 1987e). The *Department 671 Resin Storage Facility - Site Exploration and Environmental Action Plan* (SHA, 1988) presents the results of the additional investigation. A summary of soil and groundwater samples analyzed during this study are presented in Table 6-9.

The *Results of Final Soil Sampling and Analysis for Clean-Up Verification* report, summarizes the resin remedial activities that took place on site (SHA, 1989). The report is provided in Appendix O. The dates of the cleanup and the specific actions taken are not presented in any of the documentation. The remedial action instituted at the Site was limited to excavation of resin contaminated soils. At a nominal depth of 20 feet below the ground surface verification sampling and analytical testing were completed on a grid pattern. The results verified that no evidence of resin constituents were present in any of the grid positions. On December 11, 1989, the MDNR approved closure of the Department 671 Resin Storage Facility (MDNR, 1989) (see Appendix O).

Several recommendations with respect to areas of concern within the foundry were identified and included the removal, decontamination, and proper disposal of the 20,000-gallon UST on the south side of the facility within nine months after the tank is removed from service.

The *Deactivation Assessment (Final Draft Report)* (O'Brien & Gere [OBG], 1994) mentions that the UST was removed prior to plant shutdown. No other documentation is available for the UST removal. The *Deactivation Assessment (Final Draft Report)* identifies items of environmental concern at the foundry prior to the demolition of equipment and facilities.

A reconnaissance survey by OBG revealed three distinct basement areas within the foundry: basement area 2, the cleanup room and the foundry basement. Basement area 2 was inaccessible due to an accumulation of 1.25 ft of water on the floor. The water contained dissolved arsenic at a concentration exceeding MDNR Type B Criteria for groundwater.

The cleanup room and the foundry basement held significant accumulation of sediment and dust. Analytical results showed that the concentration of total metals and organics in both areas and the cyanide concentration in the foundry basement exceeded the MDNR Type B Criteria for soil. Leachability tests indicated that the detected metals in both areas do not readily leach. PCBs were present in concentrations above Toxic Substances Control Act (TSCA) regulated levels on stained surfaces in the cleanup room and in soil/dust samples in the foundry basement.

Analysis of the first floor, second floor and penthouse level of the foundry building indicated the presence of asbestos containing materials (ACMs) existing in the form of dust and debris on the first floor. Equipment that may contain PCBs, mercury, oil and/or hydraulic fluid was found on all three levels. Paint chips collected from the first and second floors contain lead concentrations exceeding MDNR Type B Criteria for soil. Soil, sediment, and dust samples collected within the first floor and penthouse level indicate the presence of total metals in concentrations that exceed the MDNR Type B Criteria for soil. Leachability analyses of the paint chips and the soil/sediment/dust indicate that the metals do not readily leach.

Demolition of the foundry structure was completed in April 1995. No correspondence regarding the decommissioning and demolition activities was available for review.

From May 22 through May 24, 1995, the USEPA performed a PCB soil and/or debris sampling inspection. The *PCB Sampling Report* (Chester, 1996) is presented in Appendix O. At the time of the sampling, the foundry was demolished. The remaining structures included the compressor, salvage, and melt shop buildings and part of the core storage office and East Loading Dock area.

Five soil and/or debris samples were taken at locations throughout the demolition site where PCB's had been identified during a GM-conducted Facility Assessment. Four samples were collected by removing soil and/or debris from the top of concrete slabs. The fifth sample was collected in the Molding area at the soil surface. Two samples were taken from each location and were individually tested by both USEPA and GM. Aroclor 1242 was the only Aroclor detected at the East Loading Dock at a concentration 82 mg/kg and 36 mg/kg from the USEPA and GM, respectively. As stated in the *PCB Sampling Report*, the USEPA informed GM that this was the only area of concern, as it was the only area with a PCB concentration greater than 50 mg/kg (USEPA result) (Chester, 1996).

Prior to demolition, the East Loading Dock area was swept and the debris placed in 55-gallon drums. These drums were sealed, removed from the site, and disposed at an EPA approved landfill. To confirm the cleanliness of the area, the USEPA requested four wipe samples be taken. Five wipe samples were taken from the concrete surface, and analysis showed that the highest PCB concentration was 4.4 ug/wipe. The report concludes at this point and does not suggest any further action is required.

6.2.9.3 Current Status

The Foundry (Plant 6) has been decommissioned and demolished. Previous remedial activities have addressed the former resin spill and the presence of PCBs. However, documentation does not exist for closure of the 20,000-gallon UST; therefore, **FURTHER ACTION** is recommended.

6.2.10 Railroad Marshalling Area Drainage System (AOI W-10)

AOI W-10 consists of a railroad marshalling area that extends the entire length of the western boundary of the West Yard. This area is considered an AOI because of historical operations.

6.2.10.1 Historical and Current Operations

Historical operations at the Railroad Marshalling Area included the temporary storage of railcars loaded with scrap metal and grinding waste to be shipped off site. Waste from the waste metal chips drained out of the railcars and into the railway ballast/soil immediately beneath the tracks. An oily discharge originating from the railroad area was noted in July 1971 immediately south of the marshalling area in a culvert on school property. The culvert is known to drain into Harris Lake.

6.2.10.2 Previous Investigations and Remedial Actions

The following information was obtained from a CPC Environmental Evaluation Report dated August 5, 1971 (GM, 1971), and subsequent internal handwritten CPC documents dated as late as February 1972. Available documentation is provided in Appendix P. The superintendent of the Pontiac School District bus garage, Mr. Carl Burnside, reported to CPC that an oily discharge was seen coming from a culvert originating from CPC property. A sample from the culvert was obtained by Ron Grimes of the Oakland County Environmental Health Department and analyzed for coliform, which indicated 214,000 counts, a concentration above Michigan State guidelines. A visual inspection of the area indicated that oil had run off the CPC property from the railroad area, down the roadway, and entered an on-site storm sewer discharging to Harris Lake. The oil in the storm sewer was pumped out, and daily monitoring of the area ensued. The duration and extent of the monitoring activities is not known. An earthen sump existed at the marshalling area that collected the oily runoff, and a pump was installed that directed oily wastewater to the WWTP. Overflow during periods of rain was noted during the months of September and October, and sampling during this period indicated coliform counts remained above guidelines. It is unclear where the samples were obtained. Correspondence could not be located for periods between February and November of 1972.

As a result of the incident, the railroad marshalling area drainage system was installed by CPC in November 1972. The drainage system was designed to collect the oily discharge dripping out of railcars and to pump the oil to the WWTP.

6.2.10.3 Current Status

The railroad marshalling area is no longer used for the storage of railcars. The railroad marshalling area drainage system remains at the Site. Based on reported oily discharges and historic operations associated with the railroad marshalling area, **FURTHER ACTION** is recommended for AOI W-10.

6.2.11 Salvage Yard Sump Drain (AOI W-11)

AOI W-11 consists of the Salvage Yard sump drain. The location of the sump drain is unclear. The Salvage Building was located on the western boundary of the West Yard, north of the Compressor Building, and immediately east of the rail lines. This area is considered an AOI because of the historical disposal activities that took place at this location.

6.2.11.1 Historical and Current Operations

The location of the Salvage Yard sump drain is unclear, since it is not directly mentioned in the documentation. It should be noted that there is a sump located immediately adjacent to the Salvage Building, within the hazardous waste storage pad, but it is not known if this is the location where dumping activities took place.

Internal CPC documentation dated September 24, 1985, indicates that 69 barrels with various liquid contents were dumped down the salvage sump during June and July 1985. The documentation indicates that numerous city sewer ordinance limits were breached by CPC. Samples of water were taken from the influent and effluent tanks at the WWTP each day of the dumping. Chloride concentrations exceeded the city limits on each of the eight days of dumping. Total Kjeldahl Nitrogen (TKN) was exceeded on six of the eight days of dumping, and nickel was exceeded on two of the days of dumping.

6.2.11.2 Previous Investigations and Remedial Actions

Samples of water were taken from the influent and effluent tank at the WWTP each day of the dumping. Chloride concentrations exceeded the city limits on each of the eight days of dumping. TKN was exceeded on six of the eight days of dumping, and nickel was exceeded on two of the days of dumping.

6.2.11.3 Current Status

Information is not available on the condition of the sump drain. Due to the past reported incidents at this location, **FURTHER ACTION** is recommended for AOI W-11.

6.2.12 Catalina Substation (AOI W-12)

AOI W-12 consists of the Catalina Substation located south of Montcalm Street and east of the storm-water retention pond. This area is considered an AOI because there were reported spills of PCB-containing oils with subsequent remedial action implemented.

6.2.12.1 Historical and Current Operations

The substation is owned by GM and leased to Detroit Edison. This power station was used to service the foundry operations.

Access to the substation was restricted during the recent Site walkthrough.

6.2.12.2 Previous Investigations and Remedial Actions

In response to a release of PCB-containing transformer oils on August 19, 1985, GM initiated a sampling and analysis program for PCB-contaminated soils followed by remedial action (GM, 1986j). These remedial actions involved removal of PCB-contaminated soils. These remedial efforts were approved by the MDNR in a letter dated May 27, 1987 (MDNR, 1987b), and are provided in Appendix R.

6.2.12.3 Current Status

Based on the approved remedial activities, **NO FURTHER ACTION** is recommended for AOI W-12.

6.2.13 Montcalm Substation (AOI W-13)

AOI W-13 consists of the Montcalm Substation, located east of Saginaw Street and north of Montcalm Street. This area is considered an AOI because transformer oil that potentially contained PCBs was used at the substation.

6.2.13.1 Historical and Current Operations

The Montcalm Substation is located east of Saginaw Street and north of Montcalm Street. This substation was used to service the Site and acted as a backup to the Catalina Substation.

Access to the substation was restricted during the recent Site walkthrough. There have been no documented releases associated with the power substation.

6.2.13.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the substation.

6.2.13.3 Current Status

There is no information available on this area; therefore, **FURTHER ACTION** is recommended for AOI W-13.

6.3 Metal Fabrication Division (MFD)

There are 25 AOIs located within the MFD portion of the Site. The 25 AOIs in the MFD area consist of:

- one wastewater treatment plant (AOI M-1);
- one former plating area (AOI M-2);
- three former PCB-containing fluid spills (AOI M-3, AOI M-6, and AOI M-24);
- nine UST or AST locations (AOI M-4 and AOI M-7 to AOI M-14);
- one former fill area (AOI M-5);
- two railroad spurs (AOI M-15 and AOI M-19);
- two building sump areas (AOI M-16 and AOI M-25);
- one piping trench (AOI M-17);
- one waste accumulation area (AOI M-18);
- one plant basement (AOI M-20); and
- three electrical substations (AOI M-21 to AOI M-23).

Figure 6-5 shows the locations of the AOIs within the MFD portion of the Site. A summary of the MFD AOIs is presented in Table 6-10. A detailed listing of the ASTs and USTs is presented in Table 6-11.

6.3.1 Wastewater Treatment Plant Area (AOI M-1)

AOI M-1 consists of the WWTP located west of Plants 5, 14, and 23. Historically, the WWTP has utilized up to 55 ASTs, which were related to the industrial wastewater treatment process (including system influent, system effluent, and materials used during treatment). The WWTP and two waste piles located within the WWTP area were identified as SWMUs by GM in the *Certification of Potential Releases from Solid Waste Management Units* (GM, 1986c). This area is considered an AOI because of the type of materials stored and treated (industrial wastes), a history of documented releases, and it was previously identified as a SWMU.

6.3.1.1 Historical and Current Operations

The WWTP began operation in March 1957. Historically, the area has contained up to 55 ASTs that together have provided wastewater treatment capabilities. Most of the existing ASTs do not have secondary containment systems. The WWTP consists of two separate batch treatment systems, one for metals removal and one for alkali-oily waste removal.

The ASTs are used to store:

- treated metals, including hexavalent chromium, from paint booths, ELPO, the powerhouse, and assembly;
- treated alkali-oily wastes from engine plants, metal stamping, and parts washers; and
- oil, sludge, sulfuric acid, lime, alum, polymer, caustic, and pickle liquor.

The *Certification of Potential Releases from Solid Waste Management Units* documents various releases in the WWTP area between 1975 and 1984 (GM, 1986c). Potential releases may have included alkali-oily water, cyanide plating solution, acidic alkali water, lime slurry, reclaimed oil, strong metallic water, chrome solution, and cyanide solution. Waste piles located within the WWTP area were used for water treatment sludge (F006), and non-hazardous painting and machining sludge (GM, 1986c).

In 1995 PCBs were detected in reclaimed oil that had been separated from wastewater.

Water from the WWTP discharges to the sanitary sewer on Montcalm Street via Outfall 003 (see Figure 2-1), and ultimately discharges to the City of Pontiac POTW. During the August 2000 site walkover, areas of stained soil were noted around several of the tanks.

6.3.1.2 Previous Investigations and Remedial Actions

The wastewater treatment system receives oily wastewater from the manufacturing and press plants at the Site. This wastewater is treated to remove the oil before being discharged to the City of Pontiac POTW. The recovered oil

is further processed and sold to buyers. During the bidding process in 1995, samples of the oil were collected and analyzed for various parameters. The lab data indicated the presence of PCBs above the allowable level for sale. Additional sampling was conducted to properly characterize the waste oil. Further sampling indicated levels of PCBs in the WWTP system above the TSCA regulatory limit. The PCB-contaminated oil was subsequently collected and disposed off site in compliance with TSCA regulations.

A preliminary subsurface soil boring program was conducted by CRA in September 1999, with soil samples obtained from four boreholes, and submitted for analysis of VOCs, SVOCs, PCBs, and metals. Results of this program are presented in a memorandum prepared by CRA (CRA, 1999) and provided in Appendix S. In general, PCBs were the only constituents detected.

6.3.1.3 Current Status

Based on the type of materials historically stored and treated, records of previously documented releases, and visual observation of stained soils in the area, **FURTHER ACTION** is recommended for AOI M-1.

6.3.2 Former Plating Operations Area (AOI M-2)

AOI M-2 consists of a former plating operations area located in the western portion of Plant 2, near Dock 34. This area is considered an AOI because of the type of materials historically used in plating operations (metals, solvents, and acids) and the nature of their use. In addition, the plating pits showed evidence of corrosion during a recent Site walkthrough. This area also has six metal lined mix tanks located below the concrete floor east of the plating pits.

6.3.2.1 Historical and Current Operations

Metal-plating operations were conducted in this area from at least 1964 through 1985. Metal plating operations conducted at the Site included meacher (copper coating) and utilyte (nickel and chrome plating) processes. The plating operations were conducted in metal dip tanks within a concrete sump or bermed concrete area. Metal parts were placed on a rack and dipped in tanks containing either an etching, cleaning, or plating solution. Parts were transferred between tanks by an overhead hoist. Overflow from the tanks was contained in the concrete sumps or bermed areas. Chlorinated solvents were used extensively in the plating area to clean the metal parts prior to plating.

The area consists of several former process plating pits and USTs. During the September 2000 Site walkthrough, signs of corrosion were observed in the plating pits and area truck docks.

In addition, six metal lined mix tanks associated with the plating operations are located in the plating area north of the railroad track between Plants 2 and 5. These mix tanks are located below the concrete floor. According to Site personnel, solutions were off-loaded from railcars into the mix tanks for use in the plating process.

Two sumps are also located in this area, described as a parts washer sump and a machine sump. Both sumps are part of the Site WWTP system.

There have been no documented releases from the former plating operations area.

6.3.2.2 Previous Investigations and Remedial Actions

A limited investigation of the plating area was completed as part of a building decommissioning assessment (BDA) of Plants 2 and 5. No remedial actions have been conducted in association with the former plating operations area.

On November 23 and 24, 1998, CRA conducted a limited investigation in the area of the plating pits. Samples of various materials were collected: surficial solids and dust, sediment and bulk/staged solids, sludge and oil, water, wood floor blocks, paint, and concrete cores. Samples were collected from trenches/sumps/pits/vaults, drums and containers, surficial material and stains, and concrete flooring.

Exceedances of cleanup criteria (e.g., toxicity characteristic leaching procedure [TCLP], TSCA, Part 201) were identified in residuals in floor trenches, pits, vaults, sumps, and concrete flooring for the following parameters: arsenic, chromium, copper, lead, cyanide, PCBs, corrosivity, and reactivity.

6.3.2.3 Current Status

During the September 2000 Site walkthrough, signs of corrosion were observed in the plating pits and area truck docks. Sumps were also observed in the plating pits. Roof leaks allow rainwater to accumulate in some of the pits and truck docks. As a result of these observations and the results of sampling conducted as part of the BDA, **FURTHER ACTION** is recommended for AOI M-2.

6.3.3 Former Track 31 (AOI M-3)

AOI M-3 consists of former Track 31, a railroad spur located west of Plant 14 and northwest of the WWTP. This area is considered an AOI because of a documented historical release of PCB-containing hydrocarbons.

6.3.3.1 Historical and Current Operations

Former Track 31 was used for transporting materials within the facility. The nature of the materials transported on Track 31 is not known at this time. In October 1986, GM personnel reported oil staining on Track 31.

6.3.3.2 Previous Investigations and Remedial Actions

Previous investigations included several soil and groundwater investigations that were conducted between 1986 and 1995. Remedial actions consisted of excavation of PCB-contaminated soil in September and October 1996. Previous investigations and remedial actions are detailed below.

In October 1986, GM personnel reported surficial oil staining on Track 31. According to GM personnel, the source of the release was likely to be a pre-1978 spill of a potentially PCB-containing fluid. Five surface soil samples were collected and analyzed for PCBs. The results indicated the presence of PCBs, predominantly Aroclor 1260 (OBG, 1997).

Between December 1986 and January 1989, additional soil and groundwater investigations were conducted to evaluate the presence of PCBs and the potential presence of USEPA priority pollutants. Based on these investigations, the vertical and lateral extents of PCB contamination (Aroclors 1260 and 1242) above the MDEQ generic residential direct contact value for PCBs (2.3 mg/kg) were determined. Concentrations of total PCBs in soil ranged from nondetect to 20,100 ppm. The PCB-impacted area extended along Track 31 in a north-south direction (OBG, 1997). Soil samples collected from within the impacted area did not indicate the presence of other priority pollutants above the MDEQ generic residential direct contact criteria values.

In 1988, eight monitoring wells were installed and initially analyzed for PCBs. Two of the wells were originally sampled for the full priority pollutant list. Only bis(2-ethylhexyl)phthalate was present above MDEQ health-based drinking water criteria. This was determined to be laboratory contamination, not indicative of Site conditions. Trace concentrations of PCBs were detected below regulatory criteria at three of the monitoring wells. PCBs were not detected in filtered groundwater samples from these wells. The monitoring wells were sampled quarterly for PCBs from November 1988 to April 1993. With the exception of trace levels of PCBs (below regulatory criteria) in three of the wells during the initial sampling event, PCBs were not detected in groundwater. Based on the groundwater sampling results and the absence of current and foreseeable use of the groundwater, groundwater was not considered a media of potential concern.

GM submitted a Remedial Action Plan (RAP) for Part 201 industrial/restricted access closure on July 23, 1996 (GM, 1996a). On September 26, 1996, MDEQ approved the RAP with modifications as an interim measure (MDEQ, 1996).

In September 1996 and October 1996 soils and rail materials were excavated from the Track 31 area. A total of 3,609 tons of debris (soils and rail line) were transferred to specially lined railcars on Track 35 (to the west). Laidlaw/USPCI assumed transportation responsibility for the railcars, and the PCB-contaminated debris was taken to the TSCA permitted Grassy Mountain Facility in Lakepoint, Utah, for disposal.

The RAP completion report was submitted to the MDEQ in January 1997 (OBG, 1997) and is provided in Appendix S.

6.3.3.3 Current Status

The Former Track 31 and surrounding PCB-contaminated soils were excavated in 1996. Track 31 was removed during remedial activities in 1996 and has not been replaced. The area is currently covered with soil. Based on the successful soil remediation completed in 1996, **NO FURTHER ACTION** is recommended for AOI M-3.

6.3.4 Plant 25 Former Gasoline UST and Current Gasoline AST Location (AOI M-4)

AOI M-4 consists of two tanks (one UST and one AST) adjacent to Plant 25 (formerly Plant 51) located in the northwest corner of the MFD portion of the Site. This area is considered an AOI because of a prior documented release from the former UST.

6.3.4.1 Historical and Current Operations

Plants 25 and 33 housed engine machining and assembly operations. Material storage and shipping associated with these operations were also conducted in these plants.

The former 20,000-gallon UST was located north of Plant 25 and stored leaded gasoline. The UST was removed in 1985.

The 1,000-gallon AST is located north of Plant 25 and contains gasoline. The AST is surrounded with a secondary containment basin that has a blind sump.

6.3.4.2 Previous Investigations and Remedial Actions

Previous investigations included an investigation of the soils and groundwater in the vicinity of the UST in March 1985. Remedial actions included removal of the UST and excavation of contaminated soils associated with the UST as well as installation of a hydrocarbon recovery system in 1985, as detailed below. There have been no previous investigations or remedial actions associated with the AST.

On March 2, 1985, GM reported a release of an unknown amount of gasoline to the MDNR, the local fire department, and the U.S. Coast Guard (USCG) due to the discovery of gasoline in a sewer near the former UST.

GM rapidly responded to the release, as documented in a letter to the USCG (GM, 1985a). Upon discovery of gasoline in the sewer, emulsifier (Slix) was added to the liquid in the sewer to raise the flash point. The sewer was subsequently plugged to prevent additional gasoline from being transferred to the WWTP. To stop the release of gasoline, the UST was pumped dry. No records are available indicating the volume of gasoline pumped from the UST. A skimmer was installed in the sewer manhole to remove gasoline from the sewer.

The UST and associated piping were subsequently removed from the ground and disposed of. A total of 1,100 cubic yards of contaminated soil were removed from the area surrounding the tank. This soil was characterized and disposed of at an off-site landfill. Approximately 2,000 gallons of gasoline were recovered from the excavation.

In March 1985, O.H. Materials (OHM) installed five soil borings to assess gasoline impacts to upgradient and downgradient locations. Three 2-inch-diameter monitoring wells were installed in the vicinity of the UST to monitor for the presence of dissolved phase hydrocarbons. One of these monitoring wells was covered over when a new concrete pad was installed in the area. Results from the two remaining monitoring wells indicated the presence of acrylonitrile, benzene, ethylbenzene, 1,2-dichloroethane, toluene, and total xylenes. Details of the analytical program's actual laboratory analytical results are not available.

A large-diameter well and hydrocarbon recovery system were installed by OHM. The recovery system consisted of a two-pump set up with a clarifier for the discharged water. Approximately 500 gallons of product were recovered by means of this recovery system. The system was replaced in mid-1985 by MPC Environmental (MPC) with a similar two-pump system. The recovery system was removed from the well for the winter in December 1985 and reinstalled in April 1986. There was no measurable product in the well when the recovery system was reinstalled.

A summary of the UST removal activities and subsequent investigations and remedial actions was presented in the *Groundwater Remediation Summary Report*, submitted to the MDNR in February 1987 (MPC, 1987). Based on decreasing dissolved hydrocarbon concentrations and no recoverable amounts of gasoline in the recovery well, MDNR approved termination of the cleanup program (with monthly monitoring requirements through December 1987) in August 1987 (MDNR, 1987d).

6.3.4.3 Current Status

There have been no documented releases from the existing AST, which is located within a secondary containment system. Remediation of the gasoline spill from the former UST was completed in August 1987. However, the limited available analytical data show that in 1991 benzene still exceeded Part 201 criteria (Table 6-13). Based on

this information, **FURTHER ACTION** is recommended for AOI M-4 to verify the previous remedial action and to determine actual groundwater quality condition.

6.3.5 Former A-2 Fill Area (AOI M-5)

AOI M-5 consists of the former A-2 fill area, which covers approximately 10 acres under Plants 25 and 33 (previously Plants 51 and 55), the east parking lot area in the MFD area, and under the SPO Building (Plant 75). The former landfill was identified as a SWMU by GM in the *Certification of Potential Releases from Solid Waste Management Units* (GM, 1986c). This area is considered an AOI because of previous fill activities and it was also previously identified as a SWMU.

6.3.5.1 Historical and Current Operations

The former A-2 fill area occupies a previously low-lying area of the Site. The A-2 fill area was reportedly used between 1926 and 1979 for placement of non-salvage waste materials related to engine assembly, car assembly, foundry operations, painting and stamping, engine machining, metal plating, and wastewater treatment. In addition to the direct disposal of industrial process material into the A-2 fill area, waste was reportedly burned or partially burned at other on-site locations and transported to the A-2 fill area for disposal.

The area is currently occupied by the western portion of Plant 75, all of Plant 33, a portion of Plant 24, and the parking area between Plants 33 and 75 (see Figure 6-5).

6.3.5.2 Previous Investigations and Remedial Actions

Previous investigations include a soil and groundwater investigation to characterize the material within the former A-2 fill area in December 1999. No remedial actions have been conducted in association with the former A-2 fill area.

During December 1999, CRA installed seven soil borings and two monitoring wells within the estimated limits of the former A-2 fill area. In most of the borehole locations, the underlying fill material consisted of sand and clay. However, at two of the borehole locations in the parking lot area between Plants 25 and 33 and Plant 75, foundry sand and slag were encountered. Although a number of chemical compounds were detected in the fill material, the concentrations were below the identified Part 201 Generic Industrial Cleanup Criteria (Direct Contact and Volatilization to Indoor Air Inhalation). Similarly, a number of chemical compounds were detected in groundwater underlying the fill unit. However, only bis(2-ethylhexyl)phthalate exceeded Part 201 Generic Industrial Cleanup Criteria (Groundwater Direct Contact) at one monitoring well. A summary of the investigation activities and results is presented in the *Site Investigation Report* (CRA, 2000c) which is provided in Appendix T. A summary of soil and groundwater analytical results is presented in Table 6-14.

6.3.5.3 Current Status

CRA concluded in their *Site Investigation Report* (CRA, 2000c) that the fill materials in the former A-2 fill area have not significantly impacted groundwater quality with the exception of one questionable detection of bis(2-ethylhexyl)phthalate in groundwater. However, dioxin sampling of soil and groundwater was not part of this investigation. Therefore, **FURTHER ACTION** is recommended for AOI M-5.

6.3.6 Plant 5 Hydraulic Fluid Spill (AOI M-6)

AOI M-6 consists of an area adjacent to Plant 5, where PCB-containing fluid was spilled. The area near loading dock 35 is considered to be an AOI because of a spill of PCB-containing hydraulic fluid in September 1992.

6.3.6.1 Historical and Current Operations

Plant 5, built in 1927, was one of the first buildings constructed at the Site. Plant 5 was used for the storage and final shipping of automobiles from 1927 through at least 1950. Plant 5 contained metal working operations from at least the early 1960s through approximately 1985, including the manufacturing of ring and pinions for rear axles. From 1985 through 1990, Plant 5 was used for the storage of automobiles and the long-term storage of miscellaneous equipment. In 1994, a waste accumulation operation was relocated from another part of the Site to the west end of Plant 5.

At the time of the hydraulic fluid spill in September 1995, CPC Headquarters Tooling Procurement leased space from GM to operate an investment recovery operation. This investment recovery operation received shipments of equipment and materials transferred from other GM plants. A spill of PCB-containing hydraulic fluid occurred on September 3, 1992, during unloading of a hydraulic press transferred from another GM plant.

6.3.6.2 Previous Investigations and Remedial Actions

Previous investigations consisted of analyzing spilled hydraulic fluid to determine if it contained PCBs. Remedial actions included removal of blacktop, concrete, and soil from the hydraulic soil spill area.

On September 3, 1992 a hydraulic press was unloaded from a flatbed trailer in the rear of Plant 5. During unloading, the press was tipped on its side and hydraulic fluid was spilled onto the blacktop. The facility hazardous materials team contained the spill with absorbent and collected a sample of the spilled material. Results of the analysis conducted at the GM on-site laboratory indicated the presence of Aroclor 1254. Additional samples were

collected and sent to National Environmental Testing (NET) for verification. These results also indicated the presence of Aroclor 1254. A copy of the analytical results are presented in Appendix U.

Based on the analytical results, GM decided to excavate the spill area plus a 1-foot buffer zone. The excavation was completed on September 18, 1992. No information was available that disclosed the actual size or depth of the excavation. The excavated blacktop, concrete, and soil were placed in two 20-cubic-yard roll-off boxes. Samples of the excavated material were submitted for TCLP analysis. Based on the results of the TCLP analysis, the excavated material was identified as a non-hazardous/non-TSCA waste.

6.3.6.3 Current Status

Material exposed to the PCB-containing hydraulic fluid was excavated in 1992. No visible staining was observed in the area during a recent Site walkthrough. As a result, **NO FURTHER ACTION** is recommended for AOI M-6.

6.3.7 ELPO Building (AOI M-7)

AOI M-7 consists of the ELPO Building, which includes the ELPO operation and flammable liquids storage areas. The ELPO operation is located east of Plants 5 and 8 and southwest of Plant 18. The current flammable liquids storage area and paint mix room are located in the southern part of the ELPO building. The ELPO building is considered an AOI because of the materials (solvents, flammable material) stored and processed in that area. In addition, numerous spills in the interior of the ELPO process area are evident, and staining was observed on the outside wall of the ELPO Building during the September 2000 Site walkthrough.

The Flammable Liquids Storage Building (formerly called Plant 8 Paint Storage) is located south of the ELPO building. This building stores pails, drums, and totes containing various oils and corrosive materials.

The paint mix room is located south of the Flammable Liquids Storage Building within the ELPO building. The paint mix room contains multiple solvent process tanks, paint containers, paint storage cabinets, and the satellite hazardous waste storage area.

6.3.7.1 Historical and Current Operations

The purge thinner tank area is located at the south end of the ELPO building. The two ASTs stored dirty solvent from the Paint Booth and Paint Mix Room. The combined capacity of the ASTs is approximately 7,000 gallons. The ASTs have a welded, steel-plate secondary containment system. Plant 8 was shutdown in 1987. As a result, in March 1988 the ASTs and associated piping were emptied and cleaned. Additionally, the piping was disconnected in March 1988. The tanks are still located within the ELPO building.

Fifteen ASTs with secondary containment are housed within the ELPO Building. The ASTs contain alkali cleaner (two ASTs), phosphoric acid (two ASTs), chromic acid (one AST), paint (three ASTs), paint bath (one AST), water and conditioner (one AST), water and permeate (one AST), and water (four ASTs). Numerous process tanks used in ELPO operations are also housed within this building. The ELPO building also contains a number of electric transformers that, at one time, may have utilized PCB-containing hydrocarbons. During the August 2000 site walkover, portions of the concrete floor appeared to be significantly corroded. Additionally, the outside east wall at the south end of the building was stained black, suggesting material may have leaked from an inside tank. No evidence of stained soil was observed at this location.

6.3.7.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions conducted in connection with the ELPO building.

6.3.7.3 Current Status

The purge thinner ASTs were emptied and cleaned in March 1988 and are no longer in use. Other ASTs and process tanks in the ELPO building are still in use. Current processes utilize tanks and vats that have the potential for leakage. During the September 2000 Site walkthrough, evidence of previous releases, including staining of walls and floors, was observed. Based on this information, **FURTHER ACTION** is recommended for AOI M-7.

6.3.8 Plant 25 Oil Storage Area (AOI M-8)

AOI M-8 consists of an oil storage building located to the west of Plant 25. Six ASTs are located within the oil storage building. One AST is located outside the oil storage building to the south. This area is considered an AOI because of the various petroleum-based materials stored in the ASTs.

The oil storage building contains five 15,000-gallon ASTs and one 20,000-gallon AST. The 15,000-gallon ASTs are used to store soluble oil (one tank), hydraulic oil (one tank), semi-synthetic grinding oil (one tank), engine oil (one tank), and lubrication oil (one tank). The 20,000-gallon AST is empty. The ASTs do not have individual secondary containment, but the entire building is surrounded by a diked containment system that drains to the WWTP via the Plant 25 basement sump area.

6.3.8.1 Historical and Current Uses

Plants 25 and 33 housed engine machining and assembly operations. Material storage and shipping associated with these operations were also conducted in these plants. The oil storage building was used to house ASTs containing various types of oil, as detailed below.

A paint booth is located in the building, south of the ASTs. A diesel AST is located just outside the oil storage building on the south end.

There have been no documented releases from either the oil storage ASTs or the diesel AST.

6.3.8.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the oil storage ASTs or the diesel AST.

6.3.8.3 Current Status

Six oil ASTs and one diesel AST were observed during a recent Site walkthrough. The concrete containment inside and outside the building appeared to be in good condition with no evidence of releases. There have been no documented releases from any of the ASTs in this area. Based on this information, **NO FURTHER ACTION** is recommended for AOI M-8.

6.3.9 Plant 11 Heat Treat Oil Storage Area (AOI M-9)

AOI M-9 consists of four ASTs located near the eastern wall of Plant 11, contained inside a floor pit with a sump that discharges to the WWTP. This area is considered an AOI because of the type and quantity of oils and coolant materials historically stored in the ASTs. In addition, evidence of staining was observed on the outside of the eastern wall of Plant 11 during a recent Site walkthrough.

6.3.9.1 Historical and Current Operations

Plant 11 was historically used for heat treating operations. During that time, the two ASTs (8,000-gallon and 8,400-gallon capacities) stored dirty heat treat quench oil. Additionally, two ASTs (5,600-gallon and 8,000-gallon capacities) stored LC-7 coolant. Former plant drawings indicate that acidic material may have also been stored in this area. Currently, the Plant 11 area is used for repair operations and maintenance activities. Three of the four ASTs have been washed, rinsed, and sit empty. One AST stores used oil that is periodically pumped and hauled off site.

There have been no documented releases from the oil storage area.

6.3.9.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the oil storage area.

6.3.9.3 Current Status

During a recent Site walkthrough, only one AST was in use. The contents were labeled as used oil, non-RCRA regulated. The floor pit and sump had a moderate amount of oily liquid in them. The outside of the eastern Plant 11 wall was stained an oily color, suggesting that oil may have seeped out. Based on this information, **FURTHER ACTION** is recommended for AOI M-9.

6.3.10 Plant 23 Basement AST Area (AOI M-10)

AOI M-10 consists of three ASTs located in the basement of Plant 23. This area is considered an AOI because of the type and quantity of materials (synthetic coolant) stored in the former ASTs.

6.3.10.1 Historical and Current Operations

Pressed metal operations and maintenance activities have historically been conducted in Plants 5 and 23. Three 12,500-gallon ASTs are located in the basement of Plant 23. The ASTs previously contained 593-KC synthetic coolant. Plant personnel confirmed that the ASTs are empty and no longer used. The tanks have a below-grade containment system and a sump that discharges to the WWTP. No documented releases have occurred in the Plant 23 basement AST area.

6.3.10.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the Plant 23 basement AST Area.

6.3.10.3 Current Status

During a recent Site walkthrough, the ASTs were observed to be intact and no evidence of staining was observed. Based on this information, **NO FURTHER ACTION** is recommended for AOI M-10.

6.3.11 Plant 12 Former Gasoline Storage Area (AOI M-11)

AOI M-11 consists of a former gasoline storage area located outside, near the northeast corner of Plant 12. This area is considered an AOI because of the type and quantity of the materials (gasoline) stored in the area.

6.3.11.1 Historical and Current Operations

Plant 12 was originally constructed in 1951, with 170,000 square feet of floor space. Major expansions to the east and the west occurred in 1953, increasing the total floor space to 366,000 square feet. From the 1950s through the early 1990s, Plant 12 was used for the final storage and shipping of new automobiles. These automobiles were stored in Plant 12 and loaded on railcars for shipment off site. The eastern portion of Plant 12 was also historically used for maintenance and testing of company-owned vehicles. This area was referred to as the reliability garage, and contained a car wash area, a paint booth, and numerous automobile hoists. During the 1990s, Plant 12 was used for a variety of small non-production operations, including a small tin shop, welding shop, machine shop, training center, fire station, and exercise gym.

Records indicate that one 480-gallon unleaded gasoline AST was located within the Plant 12 former gasoline storage area. The AST rested atop a concrete slab, which is present along the entire north side of Plant 12. The AST had a secondary containment system that included a sump leading to the WWTP. There were no documented releases from the AST.

Currently, the building is empty and scheduled for future demolition.

6.3.11.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the Plant 12 former gasoline storage area.

6.3.11.3 Current Status

There were no documented releases from the former AST. According to Site personnel, the AST was emptied and removed from the Site. Cracks were observed in the concrete slab along the north wall of Plant 12 during a recent Site walkthrough, but no signs of leakage or stains were observed. However, there is no documentation available on the AST closure; therefore, **FURTHER ACTION** is recommended for AOI M-11.

6.3.12 AST East of Plant 49 (AOI M-12)

AOI M-12 consists of an AST located east of Plant 49 at the water storage building. Historically, the AST has contained both fuel oil and diesel fuel. This area is considered an AOI because of the type and quantity of materials (petroleum-based products) stored in the AST.

6.3.12.1 Historical and Current Operations

Plant 49 housed pressed metal operations and was used for storage and shipping activities. Additionally, a truck repair shop was previously located in the northeast corner of Plant 49.

The 550-gallon AST is currently contained in a secondary containment basin that has a blind sump. There have been no documented releases for this AST.

6.3.12.2 Previous Investigation and Remedial Actions

There have been no previous investigations or remedial actions associated with the AST.

6.3.12.3 Current Status

During a recent Site walkthrough, the concrete containment basin and sump were in good condition and there was no evidence of spills. There have been no documented releases for this AST. Based on this information, **NO FURTHER ACTION** is recommended for AOI M-12.

6.3.13 ASTs Area West of Plant 14 (AOI M-13)

AOI M-13 consists of three ASTs located west of Plant 14. This area is considered an AOI because of the type and quantity of materials (diesel fuel and gasoline) stored in the ASTs.

6.3.13.1 Historical and Current Operations

Plant 14 was built in 1951 for pressed metal operations. A former 480-gallon AST was located west of Plant 14. The AST stored diesel fuel and had a secondary containment system.

During the September 2000 Site walkthrough, two small fuel tanks were also observed outside the west end of Plant 14. One of the ASTs contained gasoline and had a secondary containment system. The other AST was empty and was not contained. Plant personnel stated that these ASTs are owned by a GM contractor, not by GM.

There have been no documented releases related to the former 480-gallon diesel fuel AST or the two existing ASTs.

6.3.13.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the current or former ASTs in this area.

6.3.13.3 Current Status

There have been no documented releases related to the ASTs in this area. However, secondary containment was not present for one AST and there is no closure information on the former AST; therefore, **FURTHER ACTION** is recommended for AOI M-13.

6.3.14 Current AST Area East of Plant 12 (AOI M-14)

AOI M-14 consists of an AST area located east of Plant 12. This area is considered an AOI because of the gasoline and diesel fuel stored in the ASTs. A summary of ASTs located in this area is presented in Table 6-11.

6.3.14.1 Historical and Current Uses

Plant 12 was originally constructed in 1951, with 170,000 square feet of floor space. Major expansions to the east and the west occurred in 1953, increasing the total floor space to 366,000 square feet. From the 1950s through the early 1990s, Plant 12 was used for the final storage and shipping of new automobiles. These automobiles were stored in Plant 12 and loaded on railcars for shipment off site. The eastern portion of Plant 12 was also historically used for maintenance and testing of company-owned vehicles. At a later date, this area was referred to as the reliability garage, and contained a car wash area, a paint booth, and numerous automobile hoists. During the 1990s, Plant 12 was used for a variety of small non-production operations, including a small tin shop, welding shop, machine shop, training center, fire station, and exercise gym. Currently, Plant 12 is vacant and scheduled for future demolition.

The AST area contains two 1000-gallon ASTs (one gasoline, one diesel) and associated dispensing equipment that were installed in 1999. The ASTs are constructed of double-lined steel and have secondary containment systems

that drain to a closed blind-sump. Water in the sump is periodically pumped and hauled off site. There have been no documented releases associated with these ASTs.

6.3.14.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with this AST area.

6.3.14.3 Current Status

Both ASTs have secondary containment systems that were observed to be in good condition during a recent Site walkthrough. There have been no documented releases associated with these ASTs. Based on this information, **NO FURTHER ACTION** is recommended for AOI M-14.

6.3.15 Track 26 (AOI M-15)

AOI M-15 consists of Track 26, a railroad spur that originates from the main railroad line and extends between Plant 2 and Plant 14. Track 26 is considered an AOI due to the types of materials that were potentially transported on the railway and historical investigation showing the possible presence of PCBs. In addition, soil is exposed directly beneath the railway.

6.3.15.1 Historical and Current Operations

Track 26 is used to transport materials for operations in Plant 14 (pressed metal), Plant 49 (storage, shipping, and pressed metal), Plant 2 (metal plating), and Plant 11 (heat treating).

6.3.15.2 Previous Investigations and Remedial Actions

Previous investigations of the Track 26 area indicated the potential presence of elevated concentrations of PCBs on concrete and soil (CRA, 1998a). There are PCB analytical results referencing *Program E & Track 26 Cement Piles* but no other literature or reports about these investigations are available at this time. CRA conducted a concrete and soil investigation on March 5 and 6, 1998. Four concrete core samples and 21 soil samples were collected. All of the samples were analyzed for the presence of PCBs and three soil samples were additionally analyzed for the presence of VOCs, SVOCs, and metals. PCBs were not detected in the four concrete core samples with the exception of one core sample, where Aroclor-1260 was detected at a concentration of 450 ug/kg. No PCBs were detected above the Michigan Industrial Direct Contact Criteria for soil. Of the 21 soils samples analyzed, only two soil samples had detections of Aroclor-1260 (9,100 and 2,400 ug/kg). VOCs and SVOCs were not detected

above Michigan Generic Residential or Industrial Direct Contact Criteria for soil. Arsenic and beryllium were the only metals detected above Michigan Generic Residential Drinking Water Protection Criteria for soil, but below the Michigan Industrial Direct Contact Criteria for soil (CRA, 1998a). A summary of soil analytical results is presented in Table 6-15. The results are provided in Appendix U.

During the August 2000 site walkover, there were no areas of observed staining or other indications of releases.

6.3.15.3 Current Status

Based on results of previous investigations, **NO FURTHER ACTION** is required for AOI M-15.

6.3.16 Plant 25 Basement Sump Area (AOI M-16)

AOI M-16 consists of the basement area of Plant 25, which contains a sludge tank, pumping system, and several floor sumps. This area is considered an AOI because oily liquid was observed in several of the floor sumps during a recent Site walkthrough, and the condition of the sumps is unknown.

6.3.16.1 Historical and Current Operations

Plants 25 and 33 housed engine machining and assembly operations. Material storage and shipping associated with these operations were also conducted in these plants.

The Plant 25 basement sump area contains a sludge tank, a pumping system, multiple floor sumps, and three former process pits. The three process pits have recently been filled with a flowable material. During a recent Site walkthrough, oily liquid was observed in several of the floor sumps. Some of the liquid was overflowing onto the basement floor. According to Site personnel, the basement continually collects water. The source of this water may be groundwater seeping through the basement walls. There have been no documented releases associated with the basement sump area.

6.3.16.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the basement sump area.

6.3.16.3 Current Status

During a recent Site walkthrough, oily liquid was observed in several of the floor sumps and overflowing onto the basement floor. Based on this information, **FURTHER ACTION** is recommended for AOI M-16.

6.3.17 Plant 15 Southern Piping Trench (AOI M-17)

AOI M-17 consists of a piping trench located along the southern wall in the western portion of Plant 15. The trench contains pipes that distribute wastewater below grade to the WWTP. This area is considered an AOI because of the type of material transported and the unknown condition of the trench.

6.3.17.1 Historical and Current Operations

Plant 15 has historically housed pressed metal operations. The piping trench is a pit containing wastewater piping that leads to the WWTP. The trench is approximately 10 to 15 feet deep and is designated as a permit-required confined space. There have been no documented releases associated with the piping trench.

6.3.17.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the piping trench.

6.3.17.3 Current Status

Although there have been no documented releases associated with the piping trench, the interior of the piping trench could not be observed during the recent Site walkthrough. Based on this information, **FURTHER ACTION** is recommended for AOI M-17.

6.3.18 Plant 5 Waste Accumulation Area (AOI M-18)

AOI M-18 consists of a waste accumulation area located in the west end of Plant 5. This area is considered an AOI because this area is used to accumulate and store various waste materials.

6.3.18.1 Historical and Current Operations

Plant 5, built in 1927, was one of the first buildings constructed at the Site. Plant 5 was used for the storage and final shipping of automobiles from 1927 through at least 1950. Plant 5 contained metal working operations from at least the early 1960s through approximately 1985, including the manufacturing of ring and pinions for rear axles. From 1985 through 1990, Plant 5 was used for the storage of automobiles and the long-term storage of miscellaneous equipment. In 1994, a waste accumulation operation was relocated from another part of the Site to the west end of Plant 5.

The waste accumulation area occupies approximately 13,000 square feet in the west end of Plant 5, and is separated from the remainder of the building by its location and a small guardrail. The wastes are accumulated from various processes throughout the Site and stored in 55-gallon drums or on pallets, as appropriate. Empty containers are also stored in this area. There is no secondary containment system for the waste accumulation area. Wastes are accumulated in this area and sent off site for disposal. Wastes stored and labeled included PCB light ballast, and non-RCRA wastes (labeled). Numerous 55-gallon drums containing various materials were observed in the waste accumulation area during a recent Site walkthrough (CRA, 2000f; draft).

6.3.18.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the waste accumulation area.

6.3.18.3 Current Status

No evidence of spills or leaks was observed in the area. The materials stored in this area are non-hazardous. Based on this information and the type and quantity of materials stored in this area, **NO FURTHER ACTION** is recommended for AOI M-18.

6.3.19 Plant 5 Southern Access Railway (AOI M-19)

AOI M-19 consists of an access railway located at the southwestern end of Plant 5. The access railway area is considered an AOI due to the types of materials that were potentially transported on the railway. In addition, soil is exposed directly beneath the railway.

6.3.19.1 Historical and Current Operations

Plant 5, built in 1927, was one of the first buildings constructed at the Site. Plant 5 was used for the storage and final shipping of automobiles from 1927 through at least 1950. Plant 5 contained metal working operations from at least the early 1960s through approximately 1985, including the manufacturing of ring and pinions for rear axles. From 1985 through 1990, Plant 5 was used for the storage of automobiles and the long-term storage of miscellaneous equipment. In 1994, a waste accumulation operation was relocated from another part of the Site to the west end of Plant 5.

The access railway is located at the southwestern end of Plant 5. The railway is approximately 600 feet long and spans the western half of the building along the southern side. The railway was used to transport materials into and out of Plant 5. The railway was used for shipping materials associated with metal working and automotive assembly operations. Soil is exposed directly underneath the railway tracks. There have been no documented releases associated with the access railway.

6.3.19.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the access railway.

6.3.19.3 Current Status

There have been no documented releases associated with the access railway and no staining was observed during the September 2000 Site walkthrough. However, the type and extent of materials potentially transported on the railway is unknown, and soils are exposed directly below the railway tracks. Based on this information, **FURTHER ACTION** is recommended for AOI M-19.

6.3.20 Plant 23 Basement Area (AOI M-20)

AOI M-20 consists of the basement area of Plant 23. The Plant 23 basement is considered an AOI because standing liquids and discolored basement walls were observed on the south-central side of the basement during a recent Site walkthrough.

6.3.20.1 Historical and Current Operations

Plants 5 and 23 contained metal working operations from at least the early 1960s through approximately 1985, including the manufacturing of rings and pinions for rear axles. Currently, pressed metal operations and maintenance activities are conducted in Plant 23.

There have been no documented releases within the basement area. During the September 2000 Site walkthrough, liquid was observed to be collecting in low-lying areas of the basement. The liquid appeared to be condensate water from a pipe. Discolored basement walls were also observed, along with evidence of groundwater seepage into the basement. Subsequent activities at the plant revealed this seepage was due to a sanitary sewer break.

6.3.20.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the Plant 5 basement area.

6.3.20.3 Current Status

During recent Site walkthroughs, evidence of liquid accumulation, groundwater seepage, and discolored basement walls were observed. Subsequent activities at the site revealed this was due to a sanitary sewer leak. Based on this information, **NO FURTHER ACTION** is recommended for AOI M-20.

6.3.21 Plant 14 Transformer Station (AOI M-21)

AOI M-21 consists of a transformer station located between Plant 14 and Plant 2, adjacent to Track 26. The transformer station is considered an AOI because evidence of oil-stained concrete was observed during a recent Site walkthrough and the potential for PCBs to be present in the transformer oil.

6.3.21.1 Historical and Current Operations

Plant 14 houses pressed metal operations, while Plant 2 formerly housed plating operations. The transformer station is located between Plant 14 and Plant 2, adjacent to Track 26. Approximately 25 transformers are located on an elevated concrete pad with no secondary containment system. The area immediately north of the transformer station (in the vicinity of Track 26) is covered with gravel, leaving the underlying soils potentially exposed. There have been no documented releases associated with the transformer station. However, evidence of oil stains on the north edge of the concrete pad was observed during a recent Site walkthrough.

6.3.21.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the transformer station.

6.3.21.3 Current Status

Evidence of oil stains was observed on the north edge of the transformer station concrete pad during a recent Site walkthrough. Based on this information and the fact that PCB-containing oils were historically used in electrical transformers throughout the Site, **FURTHER ACTION** is recommended for AOI M-21.

6.3.22 Plant 15 - Columbia Avenue Switch House (AOI M-22)

AOI M-22 consists of the Columbia Avenue Switch House, located on the western side of Plant 15. This area is considered an AOI because transformer oil that potentially contained PCBs was used at the switch house.

6.3.22.1 Historical and Current Operations

The Columbia Avenue switch house has historically handled electrical service for Plant 12 and Plant 15. The switch house is enclosed within a brick building located on the western side of Plant 15, between the plant building and the Site fencing. Access is restricted to the enclosed switch house. During a recent Site walkthrough, the exterior of the building (excluding the western side) was observed. No staining was observed that may be associated with transformer oil. There have been no documented releases associated with the switch house.

6.3.22.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the switch house.

6.3.22.3 Current Status

There have been no documented releases associated with the switch house. During a recent Site walkthrough, there was no evidence of staining associated with the switch house and all transformers are enclosed within the switch house. Based on this information, **NO FURTHER ACTION** is recommended for AOI M-22.

6.3.23 Plants 25, 33, and 75 Substation and Power Building (AOI M-23)

AOI M-23 consists of a substation and power building located southwest of Plant 25 and north of Columbia Avenue. This area is considered an AOI because transformer oil that potentially contained PCBs was used at the substation and power building.

6.3.23.1 Historical and Current Operations

Plants 25 and 33 housed engine machining and assembly operations. Material storage and shipping associated with these operations were also conducted in these plants. Plant 75 is home to the SPO, which includes warehousing and distribution operations.

The Plants 25, 33, and 75 substation and power building currently provide electrical service to the northern portion of the Site. There have been no documented releases from the Plants 25, 33, and 75 substation and power building.

6.3.23.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the Plants 25, 33, and 75 substation and power building.

6.3.23.3 Current Status

There have been no documented releases associated with the substation and power building. Although access to the outside substation area and building were restricted during the recent Site walkthrough, no visible staining was observed from outside the area. However, due to the potential for PCBs to be present, **FURTHER ACTION** is recommended for AOI M-23.

6.3.24 Plant 12 Transformer Oil Spill (AOI M-24)

AOI M-24 consists of an area adjacent to Plant 12 where PCB-containing fluid was spilled. This area is considered an AOI because there was a documented release of an unknown quantity of PCB-containing transformer oil to the concrete surface in 1994.

6.3.24.1 Historical and Current Operations

Plant 12 was originally constructed in 1951, with 170,000 square feet of floor space. Major expansions to the east and the west occurred in 1953, increasing the total floor space to 366,000 square feet. From the 1950s through the early 1990s, Plant 12 was used for the final storage and shipping of new automobiles. These automobiles were stored in Plant 12 and loaded on rail cars for shipment off site. The eastern portion of Plant 12 was also historically used for maintenance and testing of company owned vehicles. This area was referred to as the reliability garage, and contains a car wash area, a paint booth, and numerous automobile hoists. During the 1990s, Plant 12 was used for a variety of small non-production operations, including a small tin shop, welding shop, machine shop, training center, fire station, and exercise gym. The building is currently vacant and scheduled for near-term demolition.

A release of an unknown quantity of transformer oil occurred in May 1994 on concrete surfaces near Plant 12.

6.3.24.2 Previous Investigations and Remedial Actions

There were no soil or groundwater investigations for the transformer oil spill. Remedial actions consisted of removal of soil and concrete potentially impacted by the transformer oil spill.

6.3.24.3 Current Status

Plant 12 is currently vacant. Soil and concrete that may have been impacted by the transformer oil spill were removed in May 1994. However, there is no documentation confirming removal activities; therefore, **FURTHER ACTION** is recommended for AOI M-24.

6.3.25 Plant 33 Basement Sump Area (AOI M-25)

AOI M-25 consists of the basement area of Plant 33, which contains several floor sumps and process pits. This area is considered an AOI because the condition of the floor pits could not be evaluated during a recent Site walkthrough.

6.3.25.1 Historical and Current Operations

Plants 25 and 33 housed engine machining and assembly operations. Material storage and shipping associated with these operations were also conducted in these plants. The basement sump area is located along the east wall of Plant 33 and contains one floor sump and an unknown number of pits that have been filled with flowable fill. This floor sump discharges to the Plant 25 sump separation process, which ultimately discharges to the WWTP. According to Site personnel, framing system wax commonly used in Plant 33 operations was the primary constituent in the wastewater. The process pits have recently been filled with flowable material; therefore, their condition could not be evaluated. There have been no documented releases associated with the basement sump area.

Plants 25 and 33 are currently undergoing extensive renovation for future production purposes.

6.3.25.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the basement sump area.

6.3.25.3 Current Status

During a recent Site walkthrough, the number and condition of the floor pits could not be evaluated due to them recently being filled with flowable fill. Based on this information, **FURTHER ACTION** is recommended for AOI M-25.

6.4 Powertrain

The Powertrain Headquarters Building (formerly the Engineering North Building) is located along the eastern Site property boundary. There are eight AOIs (AOI P-1 to AOI P-8) located within the Powertrain portion of the Site. Figure 6-6 shows the locations of the AOIs within the Powertrain area. All of the AOIs in the Powertrain area are UST- or AST-related.

Each of the AOIs for the Powertrain area is summarized in Table 6-16 and discussed below. A listing of ASTs and USTs for the Powertrain area is provided in Table 6-17.

6.4.1 Former Powertrain UST Farm (AOI P-1)

AOI P-1 consists of the former Powertrain gasoline fueling area UST farm previously located adjacent to the south wall of the engine testing laboratory. This area is considered an AOI because of a documented release of gasoline that was discovered in April 1990.

6.4.1.1 Historical and Current Operations

The Powertrain Headquarters building formerly housed design, engineering, and testing laboratories for automotive powertrain.

The former UST farm was located adjacent to the south wall of the engine testing laboratory. The former UST farm contained seven tanks (PE-A through PE-G) that were used for dispensing fuel. The tanks were installed in 1952 and removed in 1990. The tanks were mounted on concrete cradles, resting on a concrete slab approximately 18 inches thick. A concrete sump was located adjacent to Tank PE-G. Three leak detection monitoring wells were installed around the UST farm in 1984.

Gasoline was delivered to the truck unload area on the south side of the former UST farm. From the former UST farm, fuel flowed to the east through a piping trench then north to enter the building where a manifold provided fuel to the dynamometer rooms along the north wall of the building. The manifold proceeded west inside the building to the west wall, where it entered the gas line trench to the old dispensing pump. The old dispensing pump was located where the current UST farm is located (AOI P-2) (GM, 1992).

This area is now paved over as parking spaces.

6.4.1.2 Previous Investigations and Remedial Actions

Previous investigations include sampling of the leak detection monitoring wells and soil and groundwater investigations associated with UST removal activities in August 1990. Remedial actions include activities associated with removal of the USTs in August 1990.

Three leak detection monitoring wells were installed around the UST farm in 1984. Initial analytical results for gasoline content were non-detect. However, a concentration of 1,500 milligrams per liter (mg/L) was found in a sample collected from the sump adjacent to the tank vault. Concentrations of BTEX from one of the monitoring wells during the March 1990 leak detection monitoring event were indicative of a possible release near the northwest corner of the UST farm. Based on these results, a release was reported to the State Fire Marshall on April 12, 1990.

Because of the construction of the new UST farm (AOI P-2), these USTs were already scheduled for removal. UST removal activities are summarized in a UST removal monitoring report (TEC, 1990b). Approximately 1,200 yards of soil surrounding the USTs were removed and disposed off site. Perched water that accumulated in the excavation area during removal of the tanks was pumped out each morning and taken to the on-site WWTP. Analytical results of this perched water indicated the presence of BTEX compounds [Note: Analytical results not available].

Confirmation soil samples were collected from the floor of the excavation area on both the north and south ends of each removed tank (16 samples total). Additionally, 12 confirmation soil samples were collected from the sidewalls of the excavation (two from the east wall, two from the west wall, four from the south wall, and four from the north wall). BTEX compounds were detected above MDNR remediation guidelines, Type B criteria, for soil contamination. The remaining samples exhibited levels below MDNR guidelines. No free product was encountered during excavation activities (TEC, 1990b).

In January 1991, an additional soil investigation was completed adjacent to the former UST area to determine if the surrounding soils had been impacted by the presence of the former USTs. These investigation activities are summarized in the remedial investigation report (TEC, 1991). Sixteen samples were collected from eight soil borings and submitted for analysis of BTEX compounds. No BTEX compounds were detected in these soil borings. No groundwater or free product was encountered during the soil investigation. TEC concluded that although minor pockets of contamination may remain around the edges of the former UST farm, this contamination was limited in areal and vertical extent and was separated from groundwater by a stiff clay. As a result, TEC recommended Type B closure for the site.

In response to MDNR comments (MDNR, 1992), additional soil and groundwater activities were conducted in 1993.

Atwell-Hicks was retained to complete a Closure Investigation. Contamination was defined in both horizontal and vertical directions. BTEX and lead levels were found to be below Michigan Type B Criteria level. (Atwell-Hicks, 1994). Closure was granted in September 1994 (MDNR, 1994). These documents are provided in Appendix V.

6.4.1.3 Current Status

The area is currently paved with concrete. There is no visible sign of the former UST farm. Closure of the former UST tank farm was granted by the MDNR in September 1994. Based on this information, **NO FURTHER ACTION** is recommended for AOI P-1.

6.4.2 Existing Powertrain UST Farm (AOI P-2)

AOI P-2 consists of the current Powertrain UST farm located outside the southwest end of the Powertrain Headquarters Building, just south of a storage building. This area is considered an AOI because of a documented release that was discovered in 1989, during excavation for the current UST farm.

6.4.2.1 Historical and Current Operations

The Powertrain Headquarters building formerly housed a design, engineering, and testing laboratory for automobiles.

The current UST farm consists of six MDEQ-regulated USTs (NL-1 through NL-6) that store gasoline. There are two 12,000-gallon USTs that are subdivided into three, 4,000-gallon sections each. There are also three 15,000-gallon USTs and one 2,000-gallon UST. The tanks are double steel, unlined tanks and were installed in 1990.

The old dispensing pump was located where the current UST farm is located presently. Gasoline was supplied to the old dispensing pump via a manifold from the former UST farm (AOI P-1), through the building, and finally through the gas line trench.

The current UST farm receives fuel at the east side of the farm. Fuel is piped to the northeast through the gas line trench. Piping enters the building at the west wall and proceeds in an easterly direction to supply the dynamometer rooms (GM, 1992).

During excavation for the current UST farm, contaminated soils were encountered near the southeastern corner of the storage building.

6.4.2.2 Previous Investigations and Remedial Actions

Previous investigations include a soil and groundwater investigation in 1989 and 1990. Remedial actions include removal of contaminated soils during excavation for the current UST farm.

During excavation for the current UST farm in August 1989, contaminated soils were encountered near the southeastern corner of the storage building. A release was reported to the State Fire Marshall on August 28, 1989. TEC was contracted to oversee the excavation and identify any areas of contamination. Soils were monitored for the presence of contamination via HNU headspace readings during the excavation and temporarily stored on site prior to off-site disposal. Soil samples were collected from the sidewalls (five samples) and floor (one sample) of the excavation and analyzed for TPH. Results indicated the presence of contamination in the east, west, and north walls of the excavation. The area of heaviest contamination was in the northeast corner of the excavation. Approximately 2,767 cubic yards of soil were removed from the excavation, half of which was considered contaminated. On September 13, 1989, a 6-foot section of abandoned sewer pipe was located which contained approximately 1 gallon of free product. Groundwater was not encountered during excavation activities. These activities were summarized in a site investigation report (TEC, 1989), which is provided in Appendix W.

In January 1990, TEC conducted a soil investigation around the excavation for the current UST farm. Nine soil borings were installed around the excavation, concentrated in the northeast corner. A total of 13 soil samples were collected and analyzed. Laboratory results indicated non-detectable levels of BTEX compounds. No groundwater was encountered during installation of these soil borings. These activities were summarized in the Final Site Investigation (TEC, 1990a), which is provided in Appendix W.

During a subsurface investigation in the vicinity of the UST farm, a low concentration of naphthalene was detected in groundwater. As a result, a suspected release report was submitted to MDEQ on June 29, 2000. Subsequently, GM contracted Oscar W. Larson Co. to conduct interstitial testing on each tank. All of the tanks held pressure, and no liquid or odor were detected in the monitoring devices. Laboratory reanalysis of the groundwater sample indicated that naphthalene was not detected in the sample. As a result, GM requested that the MDEQ cancel the suspected release report (GM, 2000). This request is provided in Appendix W.

6.4.2.3 Current Status

There are currently six gasoline USTs in the tank farm. There have been no confirmed releases associated with the current USTs. Contaminated soils associated with the dispensing system for the previous USTs were removed during excavation for the new USTs. Although formal closure has not been granted by the MDEQ, **NO FURTHER ACTION** is recommended for AOI P-2.

6.4.3 Car Wash (AOI P-3)

AOI P-3 consists of the car wash area located west of the Powertrain Headquarters building. Previously, three USTs were located in this area. The car wash tank farm is considered an AOI because of two previous confirmed releases.

6.4.3.1 Historical and Current Operations

The car wash was built in 1970 and used to wash plant vehicles.

Two 20,000-gallon gasoline USTs were installed in 1972. Site records suggest that one of the USTs may have contained diesel fuel at one time. Releases relating to these USTs were reported in 1985 and in 1990. The USTs were removed in December 1990.

One 20,000-gallon gasoline UST was installed in 1991 to replace the two earlier USTs removed in 1990. This UST was constructed of unlined steel. It was removed in December 1999. No documented releases associated with this UST have been reported.

6.4.3.2 Previous Investigations and Remedial Actions

Previous investigations relating to the two earlier USTs include a soil investigation in 1985 and closure and post-closure soil and groundwater investigations in 1991. A closure investigation was conducted during closure of the UST in 1999. Remedial actions include excavation of soils in 1985 and 1990 associated with the two documented releases from the earlier USTs.

In September 1985, a documented release was reported after piping connected to a diesel fuel UST failed a leak test. The pipe was capped and subsequently removed. Upon removal, it was determined that the leak had occurred through a 0.1" diameter hole in the pipe. Approximately 5 to 10 gallons of diesel fuel were estimated to have leaked from the piping. An unknown quantity of contaminated soils adjacent to the piping were excavated during removal of the piping (GM, 1985e).

In December 1990, two 20,000-gallon gasoline USTs were removed and replaced with one new 20,000-gallon gasoline UST. An unknown quantity of soils were also removed to facilitate the installation of the new UST. The removed soil was subsequently disposed of at Wayne Disposal in Belleville, Michigan. Upon removal of the USTs, seven confirmation soil samples were collected from the excavation floor (three samples) and sidewalls (one sample per side) and analyzed for BTEX, polynuclear aromatic hydrocarbons (PNAs), methyl-tert-butyl-ether (MTBE), and lead. Analytical results indicated the presence of BTEX contamination in the northwest portion of the excavation. Removal of these soils was not practicable because they support a utility conduit containing the electrical supply for two Site plants. Additional soil sampling was conducted in May 1991 to determine the

horizontal and vertical extent of contamination in the northwest portion of the excavation. Additional sampling was requested by the MDNR. TEC completed eight soil borings around the former excavation and pump island area. Analytical results indicated the presence of BTEX compounds in only one boring, located in the utility trench. In September 1994, Atwell Hicks submitted a Type C Closure proposal based on industrial land use exposure assumptions (Atwell-Hicks, 1994b). The closure was approved by the MDNR in September 1995 as a Tier II Risk-Based Corrective Action (RBCA) evaluation with the condition that a restrictive covenant be placed on the property and that semi-annual groundwater sampling be conducted for five years (MDNR, 1995b). Initiated by conversations between plant personnel and MDEQ personnel, a Leaking Underground Storage Tank (LUST) Closure Report summarizing previous investigation activities is in the process of being prepared for the purpose of superceding the previous Tier II Closure and restrictive covenant (Superior, 2000).

In December 1999, one 20,000-gallon gasoline UST was removed. Four confirmation soil samples were collected from the excavation floor (two samples) and the dispenser/pipeline area (two samples) and analyzed for BTEX. Analytical results indicated that no BTEX compounds were detected. On behalf of GM, a closure report for the UST was submitted to the MDEQ in January 2000 (CRA, 2000a). GM received closure from the MDEQ on February 16, 2000 (MDEQ, 2000). A summary of all available analytical results is presented in Table 6-20, and key project documents are provided in Appendix X.

6.4.3.3 Current Status

No USTs are currently located in this area. GM received industrial closure for the two original USTs in September 1995 using a Tier II RBCA evaluation and by placing a restrictive covenant on the property. A revised closure report for these USTs will be submitted to the MDEQ in the near future for the purpose of superceding the restrictive covenant. This action has been verbally agreed upon with MDEQ personnel. GM received residential closure for the third UST (removed in 1999) from the MDEQ in February 2000 (MDEQ, 2000). Based on this information, **NO FURTHER ACTION** is recommended for AOI P-3.

6.4.4 Powertrain Former Used Oil UST and Utility Line (AOI P-4)

AOI P-4 consists of a former used oil UST and nearby utility line. The Powertrain Headquarters Building (formerly the Engineering North Building) is located along the eastern Site property boundary. The former UST was located west of the Powertrain Headquarters Building. The utility line is located south of the former UST. This area is considered an AOI because a documented release from the UST was discovered in October 1996.

6.4.4.1 Historical and Current Operations

The Powertrain Headquarters Building formerly housed a design, engineering, and testing laboratory for automobiles. A dynamometer laboratory was previously operated in the Powertrain Headquarters Building.

The former UST was discovered on October 25, 1996, during renovation activities. The used oil UST reportedly stored oil associated with the dynamometer laboratory (Remtech Environmental Services, Inc. [Remtech], 1996a).

6.4.4.2 Previous Investigations and Remedial Actions

Previous investigations include an investigation of the soils adjacent to the UST in October 1996 and an investigation of the soils adjacent to the utility line also in October 1996. Remedial actions included removal of the UST and excavation of contaminated soils associated with the UST. No remedial actions were conducted related to the utility line.

The former UST was discovered on October 25, 1996, during Site renovation activities. Analytical results from a soil sample collected adjacent to the UST indicated that a release had occurred from the UST. A confirmed release was submitted to the MDEQ-UST Division on October 28, 1996 (GM, 1996).

On October 30, 1996, the contents of the UST were emptied by Inland Waters and transported to the WWTP for disposal. The UST was subsequently removed from the ground, rendered unusable, and disposed of. Visual inspection of the UST at the time of removal revealed no visible holes in the UST itself. As a result, the release was determined to have come from the pipe joint that led into the UST (located on the north side of the UST).

A total of 80 cubic yards of contaminated soil (based on PID measurements) were excavated from the area surrounding the UST and associated vent pipe. The contaminated soil was placed in roll-off boxes prior to off-site disposal. After removal of the UST and contaminated soil, the excavation pit measured approximately 10 feet by 12 feet and had a total depth of 10 feet. Confirmation soil samples were collected from the excavation floor (two samples) and sidewalls (one sample from each wall) and analyzed for BTEX, MTBE, halogenated volatile organics (HVOs), PNAs, PCBs, cadmium, chromium, and lead in accordance with the MDEQ verification of soil remediation (VSR) guidance document. No groundwater or free product was observed in the excavation. Analytical results from the confirmation sampling did not indicate any parameters above Tier I Residential Criteria. A UST Closure Report was submitted to MDEQ on November 27, 1996 (Remtech, 1996a) and is provided in Appendix Y.

During the same Site renovation activities, discolored soils were found adjacent to an excavated utility line located south of the former UST. A sample of the discolored fill material collected adjacent to the utility line was analyzed for BTEX, HVO, and PNA compounds. The laboratory results were non-detect for the indicator parameters analyzed. A report was submitted to the MDEQ on December 10, 1996 (Remtech, 1996b) and is provided in Appendix Y. A summary of analytical results available for AOI P-4 is provided in Table 6-21.

6.4.4.3 Current Status

The former UST was removed in 1996 along with 80 cubic yards of contaminated soil. There were no environmental impacts from the utility line, which is still located in the area. Based on this information, **NO FURTHER ACTION** is recommended for AOI P-4.

6.4.5 Powertrain Former Stoddard Solvent UST (AOI P-5)

AOI P-5 consists of a former Stoddard solvent UST located outside, near the northwest corner of the Powertrain Headquarters Building. The UST was identified as a SWMU by GM in the *Certification of Potential Releases from Solid Waste Management Units* (GM, 1986c). The former UST is considered an AOI because a confirmed release was reported to the MDEQ in August 1995 and it was previously identified as a SWMU.

6.4.5.1 Historical and Current Operations

The Powertrain Headquarters building formerly housed a design, engineering, and testing laboratory for automobiles. The building is currently used as an office and laboratory.

The former 550-gallon steel UST was located west of the Powertrain Headquarters building. Previous Site activities indicate that the UST stored Stoddard solvent. The tank was removed in August 1995 by Carlo Environmental Technologies, Inc. (CET) (Atwell-Hicks, 1995b).

6.4.5.2 Previous Investigations and Remedial Actions

Previous investigations included an investigation of the soils adjacent to the UST in August 1995. Remedial actions included removal of the UST and excavation of contaminated soils associated with the UST.

On August 14, 1995, Atwell-Hicks collected soil samples in the vicinity of the UST and submitted the samples for laboratory analysis. Analytical results indicated that a release had occurred from the UST. A confirmed release was reported to the MDNR UST division on August 21, 1995, within 24 hours of discovery of the release.

CET removed the UST on August 25, 1995. Visual observation of the UST upon removal indicated the presence of holes and severe pitting. Based on these observations, contaminated soils adjacent to the UST were also excavated [volume of material removed not given]. A total of 75 gallons of residual product and perched water from the UST and associated backfill were removed and treated at the on-site WWTP. Soil contamination was limited to the sand backfill of the tank pit. Native soils, consisting of gray to brown clay, were not impacted. Confirmation soil samples were collected from the excavation floor (two samples) and sidewalls (one sample from each wall) and analyzed for BTEX and HVO compounds in accordance with Michigan Environmental Response

Act (MERA) guidance and oral communication with the MDNR. No groundwater was identified within 10.5 feet of ground surface in the UST area. The water encountered during tank removal was trapped within the sand fill area by the surrounding native clay unit. Laboratory results indicated that BTEX and HVO levels in the confirmation soil samples were below MDNR Tier 1 criteria. A UST closure report was submitted to the MDEQ (formerly part of the MDNR) on September 8, 1995 (Atwell-Hicks, 1995) (see Appendix Z). A summary of analytical results for AOI P-5 is presented in Table 6-15.

6.4.5.3 Current Status

Although no formal letter of approval of the closure report has been received from MDEQ, the Site was closed as of March 1996 per Act 451 Section 21315, because the MDEQ did not audit the closure report within 6 months of receipt of the report. As a result, **NO FURTHER ACTION** for AOI P-5 is recommended at this time.

6.4.6 Emissions Control Building Former UST Farm and Stoddard Solvent AST (AOI P-6)

AOI P-6 consists of a former UST farm and former Stoddard solvent AST located west of the northwest corner of the Emissions Control Building. This area is considered an AOI because a release from one or more of the USTs was discovered in June 1994.

6.4.6.1 Historical and Current Operations

The Emissions Control Building was used for vehicle emissions testing, including flow testing carburetors and fuel injectors. In 1986, emissions testing activities were transferred to another GM facility.

The former UST tank farm contained seven USTs that were installed in the early- to mid-1970s. The USTs stored several types of materials, including unleaded gasoline (three USTs), Indolene I clear gas (one UST), GM calibration solvent (one UST), and water (two USTs). The USTs were constructed of metal with no corrosion protection. The associated piping was made of galvanized steel. A documented release from one or more of the USTs was discovered in June 1984. The USTs were taken out of service in November 1986 and removed in July 1987.

The 950-gallon AST was placed on a concrete pad and contained by a concrete dike. The AST was used to store waste Stoddard solvent, generated by flow testing carburetors and fuel injectors of non-running engines in the Engineering Emissions Testing Laboratory. An underground transfer line connected the AST with the Emission Control Building. The transfer line had undergrade concrete containment. This AST was incorrectly included in the RCRA Closure Plan for the Site submitted to the USEPA in the early 1980s. The AST did not need to be included in the closure plan because the contents were stored for less than 90 days. The AST was closed in

accordance with the closure plan in November 1986, although formal correspondence with MDEQ and/or EPA was not necessary.

A concrete paved parking lot is currently at the location of the former UST farm and former AST.

6.4.6.2 Previous Investigations and Remedial Actions

Previous investigations include a soil and groundwater investigation of the tank farm area in 1984. Remedial actions include installation of recovery wells in 1984 and removal of the USTs in July 1987. There have been no previous investigations or remedial actions associated with the Stoddard solvent AST.

On June 15, 1994 while excavating to install a new waste Stoddard tank west of the Emission Control Building, soils contaminated with some type of fuel or solvent were encountered. Subsequently, Keck conducted a field investigation to characterize the nature and extent of the release. Twelve soil borings were installed in the vicinity of the tank farm. Analytical results from three of the soil borings showed evidence of contamination. Based on the location of the three borings, it was concluded that fugitive product from the USTs had become trapped in sand backfill used during the construction of new concrete curbing and precast planks in the area.

A monitoring well was installed at the location of one of the soil borings, located northwest of the tank farm. Water samples collected from the monitoring well and a dewatering sump showed no evidence of hydrocarbon contamination. A sample of the product was collected and analyzed. Analytical results indicated that the material was gasoline or a mixture of gasoline and waste solvent material.

The USTs in the tank farm were hydrostatically tested by OHM after discovery of the release. Two of the tanks "failed" the testing.

6.4.6.3 Current Status

The USTs were removed in July 1987. The Stoddard Solvent AST was removed in November 1996. A concrete paved parking lot is currently present at the location of the former UST farm and former AST. Because the investigation and remedial activities were carried out in the absence of regulatory oversight and a limited amount of information is available regarding this AOI, **FURTHER ACTION** is recommended for AOI P-6.

6.4.7 Former Plant 18 Coolant AST Location (AOI P-7)

AOI P-7 consists of an 11,000-gallon coolant AST formerly located in the basement of Plant 18. The former coolant AST location is considered an AOI because of the materials stored in the AST.

6.4.7.1 Historical and Current Operations

Plant 18 (formerly Plant 71) was constructed in the mid-1960s and housed engine operations. The building was demolished in 1998.

The AST was located in the basement of former Plant 18 near column L7. The 11,000-gallon AST was installed in February 1966 and stored 38LB coolant. The AST had a secondary containment system. There were no documented releases from this former AST. The AST was cleaned and removed in 1998 before Plant 18 demolition activities.

6.4.7.2 Previous Investigations and Remedial Actions

There have been no previous investigations or remedial actions associated with the former Plant 18 coolant AST.

6.4.7.3 Current Status

The AST was removed in 1998 before Plant 18 demolition activities. There were no documented releases from the AST and the AST had secondary containment. In addition, at the time of removal, the area was reported to be in good condition. Based on this information, **NO FURTHER ACTION** is recommended for AOI P-7.

6.4.8 Former Vacant Lot UST (AOI P-8)

AOI P-8 consists of a former UST located on a vacant lot southeast of the Powertrain Headquarters building, across Joslyn Avenue. The lot is bounded to the west by Joslyn Avenue, to the north by Westbrook Street, to the south by Lenox Avenue, and to the east by an unnamed paved alley. The vacant lot is considered an AOI because a release from a previously unknown UST was discovered in 1996.

6.4.8.1 Historical and Current Operations

The vacant lot is located southeast of the Powertrain Headquarters building, across Josyln Avenue. There are no records indicating that Site operational activities occurred on the vacant lot. The former UST location and construction information are not known.

6.4.8.2 Previous Investigations and Remedial Actions

Previous investigations included a soil investigation in 1996 and 1997 and a groundwater investigation in 1998. No remedial actions have been performed in this area.

During Site investigation activities in November 1996, a release was discovered from a previously unknown UST. The release was reported to the MDEQ on November 1, 1996. No free product was observed during the soil investigations at the vacant lot. Soil sample(s) were analyzed for BTEX, PNA, and inorganic constituents and 1-methylnaphthalene and 2-methylnaphthalene. None of the soil sample(s) had concentrations above the Tier I Residential Direct Contact Criteria. An *Initial Assessment Report* for the release was submitted to MDEQ on January 30, 1997 (Parsons, 1997a), and an incomplete *Final Assessment Report* was submitted on October 29, 1997 (Parsons, 1997c).

Several groundwater investigations were conducted by CRA in 1998. Groundwater investigation activities consisted of the installation and sampling of three monitoring wells in February 1998, the installation and sampling of seven temporary monitoring wells in March 1998, and the installation and sampling of six monitoring wells in August 1998. No free product was observed during groundwater investigation activities at the vacant lot. Groundwater sample(s) were analyzed for BTEX, MTBE, PAHs, PCBs, and select inorganics (cadmium, chromium, and lead). The *Leaking Underground Storage Tank Closure Report* was submitted to the MDEQ on October 30, 1998 (CRA, 1998b) (see Appendix AA). A summary of groundwater analytical results is presented in Table 6-23.

6.4.8.3 Current Status

Although no formal letter of approval of the UST Closure Report has been received from MDEQ, the vacant lot UST was closed as of April 1999 per Act 451 Section 21315, because the MDEQ did not audit the closure report within 6 months of receipt of the report. As a result, **NO FURTHER ACTION** for AOI P-8 is recommended at this time.

6.5 Service Parts Operations (SPO)

There are three AOIs located within the SPO portion of the Site. Of the three AOIs, two are UST-related (AOI S-1 and AOI S-2) and one is a portion of a former fill area (previously mentioned for the MFD area as AOI M-5). Figure 6-7 shows the locations of the AOIs within the SPO portion of the Site. Each of the AOIs for the SPO area is summarized in Table 6-24 and discussed below. A listing of the USTs for the SPO area is provided in Table 6-25. Since AOI M-5 was previously discussed in Section 6.3.5, it will not be discussed further in this section.

6.5.1 Former SPO Gasoline UST Location (AOI S-1)

AOI S-1 consists of a former SPO Gasoline UST located outside on the southern side of Plant 75, and adjacent to Columbia Avenue. This UST is identified as an AOI because of the gasoline contents of the tank.

6.5.1.1 Historical and Current Uses

Plant 75 is used exclusively for warehousing. A 10,000-gallon gasoline UST was removed from a location on the south side of Plant 75. The tank was installed in 1966 and removed on August 21, 1990 (OBG, 1991a).

6.5.1.2 Previous Investigations and Remedial Actions

OBG submitted a UST Removal Report (OBG, 1991a) and Hydrogeological Investigation Report (OBG, 1991b) to the MDNR. The UST Removal Report is provided in Appendix AB. The tank was cleaned prior to removal and the cleaning solution was taken to the Environmental Waste Control disposal site in Inkster, Michigan (OBG, 1991a). The tank itself was transported to Sam Allen & Sons, Inc. of Pontiac, Michigan where it was recycled for scrap metal. The impacted soils excavated during the tank removal were disposed of at the BFI Lyon Development landfill in New Hudson, Michigan.

Dissolved lead was detected at low levels (6 to 17 ug/L) in groundwater, slightly above the generic Part 201 groundwater criteria (see Table 6-26). Constituents of concern include BTEX, lead, and petroleum hydrocarbons. During the removal of the UST, two soil samples were taken from the excavation and analyzed for BTEX. Xylene was detected below generic Part 201 criteria. A summary of analytical results is presented in Table 6-26.

6.5.1.3 Current Status

Based on existing information, which indicates no significant impact to subsurface conditions, **NO FURTHER ACTION** is recommended for AOI S-1.

6.5.2 Former SPO Diesel UST Location (AOI S-2)

AOI S-2 consists of a former diesel UST located outside, east of Plant 75 and adjacent to Joslyn Avenue. This UST is identified as an AOI because of the diesel fuel stored in the tank and a reported release from the tank.

6.5.2.1 Historical and Current Uses

Plant 75 is used exclusively for warehousing. A 10,000-gallon gasoline UST was removed from a location on the south side of Plant 75. A 4,000-gallon fiberglass UST used to store diesel fuel was removed January 28, 1992.

6.5.2.2 Previous Investigations and Remedial Actions

O'Brien & Gere submitted a 45-day report describing the removal activities in March 1992 (OBG, 1992) (see Appendix AC). As a result of BTEX and PAH detection in the soil and water samples collected during the removal, GM was required to complete a hydrogeological investigation to define the horizontal and vertical extent of the impacted soil and groundwater. A summary of analytical data is presented in Table 6-27.

A 4,000-gallon fiberglass UST used to store diesel fuel was removed January 28, 1992. The tank was cleaned by K & D Industrial Services and removed by Prewitt Enterprises (OBG, 1992). During the excavation, stained and odorous soil was observed to a depth of 6 feet below grade. No free product was observed during the removal (OBG, 1992). Five soil samples were collected from the excavation. Additionally, a sample of the standing water in the excavation was collected. The only constituent detected above Part 201 generic criteria was benzo(a)anthracene (see Table 6-27). There was no visible evidence of the former UST observed during a recent site walkthrough. The UST removal report was submitted to the MDNR in 1992 (OBG, 1992).

6.5.2.3 Current Status

Based on existing information, which indicates no significant impact to subsurface conditions, **NO FURTHER ACTION** is recommended for AOI S-2.

At the site, there are a total of six storm sewer outfall points, as shown on Figure 2-1. Two outfalls are at Fiero (001-F and 002-F) and four are located throughout the remainder of the site (001, 002, 010, and 011). Five of these outfalls are not considered AOIs, since there is no historic data indicating a potential environmental issue with these outfalls.

6.6 Sitewide Storm Sewer System

Outfall 001, which conveys storm water from Plant 14 south has been identified as an AOI (ST-1) due to the presence of PCBs. AOI ST-1 is summarized in Table 6-28 and discussed below.

6.6.1 Storm Sewer Outfall 001 (AOI ST-1)

The storm sewer system, which discharges to Outfall 001, has been identified as a sitewide AOI due to the presence of PCBs detected in water and sediment samples obtained from the storm sewer system. This storm water system collects and conveys storm-water runoff from Plant 14 southward including portions of MFD and DA. Storm water is retained in the storm-water retention pond on the south side of Montcalm Street for subsequent treatment.

6.6.1.1 Historical and Current Operations

The storm-water conveyance system comprising this AOI is located in the oldest portions of the site and was built as the site was developed in the early 1900's. This system originally conveyed storm water from the Foundry, West Yard, Plant 2, Plant 8, Plant 14, Plants 5 and 23, the WWTP, portions of Powertrain parking lots, and areas of MFD north to Walton Avenue. Recently the area served by this system was reduced in areal extent and now only conveys water from the north side of Plant 14 southward to the retention pond. Laterals to the West Yard, WWTP, Powertrain parking lots, and other nonessential areas have also been plugged off.

In 1985, a storm-water retention pond and treatment system was installed to collect and treat storm water from this system for oil and grease prior to discharge to the City of Pontiac storm sewer system (Outfall 001). In 1999 as part of the MDEQ National Pollutant Discharge Elimination System (NPDES) repermitting process, PCBs were added to the analytical list for Outfall 001 and were subsequently detected at levels above the proposed NPDES permit limits. As a result, GM installed an activated carbon system to treat storm water prior to discharge. This system was recently upgraded to treat up to 800 gallons per minute (gpm) of storm water.

6.6.1.2 Previous Investigations and Remedial Actions

On February 5, 2000 GM initiated a storm sewer cleaning program to address PCBs detected within the storm water. These sediments were known to potentially contain PCBs. This cleaning program was completed on September 2, 2000 and resulted in the removal of approximately 200 cubic yards of materials from approximately five linear miles of storm-water pipe. During this process storm-water samples were obtained at various points within the system to ascertain the effectiveness of cleaning activities and also to determine the upgradient limits of PCB contamination. Memoranda summarizing storm-water PCB analytical results are provided in Appendix AD. Analytical results obtained on the sediments as part of disposal characterization are also provided in Appendix AD.

After the completion of storm sewer cleaning activities sediments were removed from the storm-water retention pond. Cleaning activities were performed from September 26, 2000 to October 1, 2000 and were performed in accordance with the project work plan. Approximately 300 cubic yards of sediments were removed from the retention pond. Sediment characterization data for the retention pond are provided in Appendix AD.

6.6.1.3 Current Status

Additional work is currently being implemented to identify, if possible, the source(s) of PCBs which have been identified in the outfall storm water. Remedial activities implemented to date have drastically reduced the levels of PCBs within the storm-water system with most recent analytical results showing levels just above method detection levels (0.15 ppb versus greater than 1.0 ppb at start of program). The activated carbon system will

continue to operate to treat storm water prior to discharge. Based on these on-going activities, **FURTHER ACTION** will be required for the storm sewer Outfall 001 AOI.

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List of Acronyms

ACM - Asbestos containing material
AOC - Area of concern
AOI - Area of interest
AST - Aboveground storage tank
BBL - Blasland, Bouck & Lee, Inc.
BDA - Building decommissioning assessment
bgs - Below ground surface
BTEX - Benzene, toluene, ethylbenzene, and xylenes
BTN - British Thermal Unit
CCR - Current Conditions Report
CEC - Clayton Environmental Consultants, Inc.
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
CET - Carlo Environmental Technologies, Inc.
CPC - Chevrolet-Pontiac-Canada Group
CRA - Conestoga-Rovers & Associates, Inc.
CSA - Container storage area
Csat - Soil saturation criteria value
DA - Demolition Area
EEC - ENCORE Environmental Consortium, L.L.C.
ELPO - Electrodeposition
ENCORE - Environmental Corporate Remediation
FOIA - Freedom of Information Act
GM - General Motors Corporation
GMC - General Motors Corporation
gpd - Gallons per day
gpm - Gallons per minute
GTI - Groundwater Technology, Inc.
HVO - Halogenated volatile organics
IRM - Interim Remedial Measure
LNAPL - Light non-aqueous phase liquid
LUST - Leaking underground storage tank
MDEQ - Michigan Department of Environmental Quality
MDNR - Michigan Department of Natural Resources
MERA – Michigan Environmental Response Act
MFD - Metal Fabrication Division
MPC - MPC Environmental
MTBE - Methyl-tert-butyl-ether

NPDES - National Pollutant Discharge Elimination System
OBG - O'Brien & Gere
OHM - O.H. Materials
PA/VSI - Preliminary Assessment/Visual Site Inspection
PCB - Polychlorinated biphenyls
PNA - Polynuclear aromatic hydrocarbon
POTW - Publicly owned treatment works
ppb - Parts per billion
PRC - PRC Environmental Management, Inc.
PVC - Polyvinyl chloride
RAP - Remedial Action Plan
RBCA - Risk-Based Corrective Action
RCRA - Resource Conservation and Recovery Act
RFI - RCRA Facility Investigation
RUST - RUST Environmental and Infrastructure
SAA - Satellite Accumulation Area
SHA – Schleede-Hampton Associates, Inc.
SPO - Service Parts Operations
SVOC - Semivolatile organic compound
SWMU - Solid Waste Management Unit
TAL - Target Analyte List
TCL - Target Compound List
TCLP - Toxicity Characteristic Leaching Procedure
TEC - Testing, Engineers, and Consultants, Inc.
TEF - Toxicity Equivalence Factor
TKN - Total Kjeldahl Nitrogen
TSCA - Toxic Substances Control Act
TSD - Treatment, storage, and disposal
ug/kg - Micrograms per kilogram
ug/L - Micrograms per liter
USEPA - United States Environmental Protection Agency
USGS - United States Geological Survey
USPCI - United States Pollution Control, Inc.
UST - Underground storage tank
VOC - Volatile Organic Compounds
VSR - Verification of soil remediation
WMD - Waste Management Division
WWTP - Wastewater Treatment Plant

TABLE 2-1
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

HISTORICAL AND CURRENT SITE BUILDINGS

Current Building Number or Name	Current Activity	Historic Building Number(s) or Name(s)	Original Year Built	Historic Activity
Fiero				
Plant 17	Non-production storage, prototyping	Plant 17, Fiero Assemebly Fiero Body Plant	1925	automotive assembly, metal fabrication, body shop, chassis, painting, trim
Powerhouse	Idle but operational power plant	Powerhouse		Power plant
Demolition Area (DA)				
Vacant Lot	Demolished	Plant 8	1927	automotive assembly
Vacant Lot	Demolished	Plant 9	1927	engine assembly
Vacant Lot	Demolished	Plant 6	1925	foundry
Vacant Lot	Demolished	Salvage Building	1945	Incineration, scrap/refuse separation
Vacant Lot	Demolished	Compressor Building		electrical transformers, air compressors
Metal Fabrication Division (MFD)				
Plant 25	engine assembly and future engine assembly	Plant 25	1967	engine assembly
		Plant 51	1967	chassis parts, machining
Plant 33	engine assembly	Plant 55	1981	engine assembly
Plant 15	pressed metal	Plant 15	1952	pressed metal
Plant 12	Vacant building scheduled for demolition	Plant 12	1950	car finishing, sales garage, equipment storage & shipping, miscellaneous non-production activities
Vacant Lot	Demolished (majority of facility)	Plant 16	1954	pressed parts, car finishing, storage
Plant 14	pressed metal	Plant 14	1951	pressed metal
Plant 49 *	pressed metal	Plant 49	1965	storage & shipping, pressed metal
Plant 11 *	Repair work and maintenance activities.	Plant 1	1945	heat treating
Plant 56 *	Western portion vacated.	Plant 2	1945	plating, pressed metal, maintenance, shipping & receiving
Plants 5 and 23 *	Western portion consists of storage and shipping & receiving.	Plant 5	1927	shipping and receiving, axle / differential
	Eastern portion is pressed metal and axle/differential operations, maintenance activities	Plant 23	1945	axle / differential, pressed metal
WWTP	wastewater treatment	WWTP	1957	wastewater treatment
ELPO	Phosphating, painting, flammable liquids storage, chemical storage	Frame Storage Building and Apprentice School	1927	Phosphating, painting, flammable liquids storage, chemical storage

TABLE 2-1
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

HISTORICAL AND CURRENT SITE BUILDINGS

Current Building Number or Name	Current Activity	Historic Building Number(s) or Name(s)	Original Year Built	Historic Activity
Powertrain				
Powertrain Engineering		Engineering North		product engineering
		Emissions Control Building		
Powertrain Headquarters		Powertrain Headquarters	1967	
		Administration Building		
Vacant Lot	Vacant	Plant 18, Plant 71	1942	demolished / engine assembly, component parts
Service Parts Operation (SPO)				
Plant 75 / SPO	warehouse	Plant 75 / General Motors Parts Division	1964	warehouse
		Flammable Liquids Storage Building	early 1970s	flammable liquids storage

Notes:

* GM has recently renamed several plants (see below). **The new plant identification system has not been used in this report.**
  Plant 49 renamed to Plant 14 East
  Plants 11 and 56 renamed to Plant 14 South
  Plants 5 and 23 renamed to Plant 23

TABLE 2-2
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

RCRA HAZARDOUS WASTE CODES

ID Number	Hazardous Waste Description
D001	Wastes which are hazardous due to the characteristic of ignitibility.
D002	Wastes which are hazardous due to the characteristic of corrosivity.
D006	Wastes which are hazardous due to TCLP Cadmium.
D008	Wastes which are hazardous due to TCLP Cadmium.
F001	Halogenated solvents used in degreasing: tetrachloroethylene, 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 10% or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of those spent solvents and spent solvent mixtures.
F002	Spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, one or more of the above halogenated solvents or those listed in F001, F004, F005; and still bottoms from the recovery of those spent solvents and spent solvent mixtures
F003	Spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethylbenzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of 10% or more (by volume) of one of the solvents listed in F001, F002, F004, F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
F005	Spent non-halogenated solvents: toluene, methy ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of 10% or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc, and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.
F007	Spent cyanide plating bath solutions from electroplating operations.
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.

See Notes, Page 2.

TABLE 2-2
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

RCRA HAZARDOUS WASTE CODES

ID Number	Hazardous Waste Description
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.
[F017]*	Paint residues or sludges from industrial painting in the mechanical and electrical products industry.
[F018]*	Wastewater treatment sludges from industrial painting in the mechanical and electrical products industry.
[K054]**	Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome/tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; shearing.
P029	Copper Cyanide Cu(CN)
P030	Cyanides (soluble cyanide salts), not otherwise specified
P106	Sodium Cyanide Na(CN)

Notes:
40 CFR Part 261 Subpart D.
[ ]* = Waste was removed from RCRA hazardous waste listing in 1981.
[ ]** = Waste was removed from RCRA hazardous waste listing in 1980.

TABLE 6-1
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - FIERO

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
F-1: Powerhouse Satellite Accumulation Areas						
SAA1 - Powerhouse Basement	PA/VSI SWMU 1	Yes	One 55-gallon drum in the basement of the powerhouse that manages waste paint thinner. No known releases reported.	PA/VSI states no known releases and no visual indication of release. During the August 2000 Site visit, the concrete floor was observed to be in good condition with no evidence of release(s).	No documented investigations or actions found.	No Further Action is recommended.
SAA2 - Powerhouse Compressor Room	No	Yes	During the site visit, approximately fifteen 55-gallon drums were observed in the Compressor Room. The drums are used to store waste oil and are moved to Plant 5 when they are filled. No known releases reported.	During the August 2000 Site visit, the concrete floor was observed to be in good condition with no evidence of releases.	No documented investigations or actions found.	
F-2: Waste Gasoline Accumulation Area						
Maintenance Area of the Assembly Building (Plant 17)	PA/VSI SWMU 2	Yes	One 55-gallon drum manages waste gasoline. No known releases reported.	PA/VSI states no documented releases and area observed to be in good condition with no evidence of release.	No documented investigations or actions found.	No Further Action is recommended.

TABLE 6-1
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - FIERO

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
F-3: Container Storage Area						
South side of the storage dock at the Assembly Building (Plant 17)	PA/VSI SWMU 3	No	Area used for greater than 90-day storage of chlorinated solvents, paint waste, waste sealers, and waste adhesives. It was active from 1986 to 1988. Low levels of chlorinated solvents detected in soils underlying pad. No known releases reported.	Container Storage Area.	A Closure Report was submitted to MDNR in January 1995. Last correspondence from MDNR in March 1995 stated they would review closure plan in 1996. GM will pursue closure certification from MDEQ.	No Further Action is recommended.
F-4: Closed Container Storage Area						
Southwest driveway, adjacent to railroad tracks	PA/VSI SWMU 4	No	Area used for greater than 90-day storage of scrap sealers, adhesives, paint thinners, and solvents. No releases were reported during the lifetime of the storage area. The area was paved.	Container Storage Area	Storage area closure was accepted by MDNR in February 1988.	No Further Action is recommended.

TABLE 6-1
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - FIERO

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
F-5: Former Fiero Wastewater Treatment Plant						
100 yards north of Owens Street (see Figure 6-1)	PA/VSI SWMU 5	No	Fiero WWTP operated from 1977 to 1983. Consisted of above-grade tanks situated on a concrete pad with secondary containment. Managed wastewater, wastewater treatment sludge, paint sludge, and bonderite sludge. No known releases reported.	No previous investigations or remediation actions in this area. No documentation of closure activities.	Ceased operations in 1983. No investigations or remediation actions.	No Further Action is recommended.
F-6: Waste Purge Thinner UST and Three Product USTs						
North of the Assembly Plant (Plant 17), directly west of the Paint Mix Building	PA/VSI SWMU 6	No	One 12,000 gallon UST, stored spent purge thinner. Encased in 15 inch concrete. Located in tank farm with 3 product storage tanks. UST operated from approximately 1969 until May 1989. Managed spent thinner wastes from paint mix building and two paint spray booths in the assembly plant. Removed wastes every 60 to 90 days. A 50 to 100-gallon spill of purge thinner occurred on August 22, 1985. Solvent odors present during UST removal. VOCs and metals detected during removal of tanks.	Pending status report from MDEQ.	60 cubic yards of contaminated soil were removed. USTs closed in 1989. A RCRA Closure Investigation and Report was submitted to MDNR by Techna Corp. VOCs were not found in soil beneath the tank exceeding MDNR Type B cleanup criteria. MDNR stated in 1995 that they would review the RUST Closure Plan in 1996. GM will pursue final closure certification from the MDEQ.	No Further Action is recommended.

TABLE 6-1
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - FIERO

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
F-7: Wastewater Collection Sumps						
Underneath basement of the Powerhouse	PA/VSI SWMU 7	Yes	Used to collect industrial wastewater and water from outdoor and indoor collection drains. Used since 1973. No reported releases.	PA/VSI stated units were inactive and in good condition. During August 2000 site walk, units were full of liquids and could not be inspected.	No documented investigations or actions found.	Further Action is recommended.
F-8: Former Paint Sludge Storage Area						
North of the Paint Mix Building	PA/VSI SWMU 8	Yes	12 by 24 feet concrete pad covered by a metal corrugated roof to manage non hazardous paint sludge and sludge from filtering waste bonderite. Operated as paint sludge pad between 1983 and 1988. No known releases. Road salt is presently stored on the pad.	PA/VSI stated no documented releases, and concrete observed to be in good condition with no evidence of release(s). The pad was unable to be inspected during the August 2000 Site visit because it was currently used to store road salt.	No documented investigations or actions found.	Further Action is recommended.

TABLE 6-1
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - FIERO

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
F-9: Temporary Container Storage Area						
East of the Powerhouse	PA/VSI SWMU 9	No	Facility active from August 1985 to July 1986. Stored waste gasoline, solvent, and paint wastes. No release controls. Facility personnel indicated to the USEPA representative during the PA/VSI that they did not know of this SWMU. No known releases.	PA/VSI stated area could not be observed due to snow cover. During the August 2000 site visit, no signs of the CSA nor any evidence of past releases was noticed.	No documented investigations or actions found. Area may not actually have existed; site records do not indicate operation of this unit.	No Further Action is recommended.
F-10: High-Pressure Fly Ash Storage Silo						
Silo east of the Powerhouse	PA/VSI SWMU 10	Yes	Capped concrete cylinder with 500 to 600 ton storage capacity to manage non-hazardous fly ash. Active since 1985. No known releases.	PA/VSI states that the unit was observed to be in good condition with no evidence of releases.	No documented investigations or actions found.	No Further Action is recommended.
F-11: Low-Pressure Fly Ash Storage Silos						
Silos east of the Powerhouse	PA/VSI SWMU 11	Yes	Each silo has a capacity of 200 to 300 tons. Manages non-hazardous coal fly ash since 1940. No known releases.	PA/VSI states that the unit was observed to be in good condition with no evidence of releases.	No documented investigations or actions found.	No Further Action is recommended.
F-12: Coal Storage Area						
Southeast of the Powerhouse	No	Yes	Coal storage area.	Area used for storage of coal.	No documented investigations or actions found.	Further Action is recommended.

TABLE 6-1
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - FIERO

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
F-13: Former Oily Pea Gravel, Concrete, and Debris Area						
South of Assembly Plant Scale, and northeast corner of Plant 17	No	No	Currently a paved parking area. Historically contained oily pea gravel, concrete, and debris.	Oily material previously stored in area.	Oily pea gravel, concrete, and debris were removed from this area in February 1996. No documentation of removal activities.	Further Action is recommended.
F-14: Fuel AST Area						
West of Low-Pressure Fly Ash Silos	No	Yes	1000-gallons, diesel AST. According to site personnel, tank was moved to its current location within secondary containment in 1998. Diesel tank was not always within secondary containment. Sodium hydroxide and sulfuric acid tanks were previously in the area. 300-gallon AST for diesel fuel and one 560-gallon AST for gasoline.	No documentation of closure activities. No documentation of releases from the diesel or gasoline ASTs.	No documented investigations or actions found.	Further Action is recommended.

TABLE 6-2
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

STORAGE TANK SUMMARY - FIERO

AOI #	Building Association	Tank No.	Date Installed	Type	Size (feet)	Capacity (gallons)	Materials Stored	Status	Construction
F-6	Plant 17			UST		12,000	Waste purge thinner	Removed (5/89).	
				UST		8,000	Xylenes	Removed.	
				UST		12,000	Purge thinner	Removed.	
				UST		8,000	cellosolve acetate enamel reducer	Removed.	
F-14				AST		1,000	Diesel fuel	Removed.	
				AST		300	Diesel fuel	Removed.	
				AST		560	Gasoline	Removed.	

TABLE 6-3
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI F-3

Constituent	Number of		Concentration (ppb)	
	Samples	Detects	Minimum	Maximum
Container Storage Area - Soil (Techna, 1990)				
Volatile Organics (ug/kg)				
1,1-Dichloroethene	21	2	190	240
1,1,2,2-Tetrachloroethane	21	1		110
Tetrachloroethene	21	4	80	130
1,1,1-Trichloroethane	21	18	260	11,000
Trichloroethene	21	6	130	320
Metals (ug/kg)				
Arsenic	21	21	3,300	84,000
Barium	21	21	5,000	220,000
Cadmium	21	21	200	1,100
Chromium	21	21	1,700	11,000
Copper	21	21	6,700	52,000
Lead	21	21	6,600	44,000
Mercury	21	9	23	240
Nickel	21	21	7,900	41,000
Selenium	21	19	180	6,000
Silver	21	18	100	600
Zinc	21	21	10,000	140,000
Container Storage Area - Soil (TEC, 1992)				
Volatile Organics (ug/kg)				
1,1-Dichloroethane	37	8	12	63
1,1,1-Trichloroethane	37	31	16	3,100
Tetrachloroethene	37	15	10	150
Container Storage Area - Groundwater (TEC, 1992)				
Volatile Organics (ug/L)				
1,1-Dichloroethane	3	1		240
1,1,1-Trichloroethane	3	3	20	550

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

TABLE 6-4
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI F-6

Constituent	Number of		Concentration (ppb)	
	Samples	Detects	Minimum	Maximum
Waste Purge Thinner UST - Soil (RUST, 1995)				
Volatile Organics (ug/kg)				
Ethylbenzene	10	2	160	320
m,p-Xylenes	10	2	130	660
o-Xylene	10	2	250	760
Metals (ug/kg)				
Arsenic	14	14	1,700	3,200
Barium	14	14	6,500	44,000
Cadmium	14	14	500	1,000
Chromium	14	14	2,000	5,900
Copper	14	14	4,600	18,000
Lead	14	14	7,100	67,000
Mercury	14	1		470
Nickel	14	14	6,700	14,000
Silver	14	14	300	700
Zinc	14	14	15,000	150,000

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

TABLE 6-5
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - DEMOLITION AREA

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI W-1: West Yard						
Open area in southwest corner of DA. Bounded to the south by Montcalm Ave, to the west by the Grand Trunk Western Railroad line, to the east by the former foundry (Plant 6), and to the north by the former Plant 9.	Yes	No	Area is approximately 20 acres in size. Was historically used for materials management activities, including: disposal of foundry sand, refuse, sludge and trash from the 1940's to the 1960's; salvaging usable material from unusable waste; RCRA hazardous waste storage pad from 1982 to 1988 (AOI W2) railroad marshalling area (AOI W11); and a backfilled settling basin. The Compressor Building contained within the West Yard was known to contain two transformers that were historically noted as leaking PCBs.	Impacted soils and groundwater known to contain VOCs, SVOCs, metals, and PCB contaminated LNAPL.	A CERCLA (Section 103(c)) notification indicated past disposal of "organics, inorganics, and heavy metals" up until 1979. 1996/1997 investigation by Parsons continued previous West Yard investigation initiated by hazardous waste storage pad investigations by D&M and GTI. CRA LNAPL Investigation in 1999 to further delineate the nature and extent of LNAPL. On October 29, 1985 Transformer 450, located west of the building, was noted as leaking. It was remediated daily until the leak was sealed on November 18, 1985. On March 2, 1988 Transformer 451, located inside the building, was noted as leaking. It was remediated daily until the leak was sealed on March 7, 1988.	Further Action is recommended.

TABLE 6-5
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - DEMOLITION AREA

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI W-2 - Former Hazardous Waste Storage Pad						
In the Western portion of the West Yard, east of the Grand Trunk Railroad line, west of the Compressor building, south of the Salvage building.	Yes	No	Constructed in 1982, the storage pad is an approximately 27,000 square-foot, 8-inch thick concrete pad which is contained within a 4-inch curb. Activities at the pad included waste storage, drum washing and empty drum storage. Hazardous waste storage included paint, paint thinner, gasoline, chlorinated solvents, machine wastes, lead chips, and spent halogenated solvents prior to closure activities in July 1988. Prior to the pad construction, a waste pile containing WWTP sludges, machine sludges, and paint sludges was contained within the footprint of the storage pad, from 1979 to 1981.	BTEX and lead were found within soil and groundwater samples taken from beneath the pad. 1,1,1-TCA and MEK were also detected in soil samples. Soil borings indicate that the area was previously used for waste disposal.	Closure activities were conducted by Dames & Moore beginning in 1988. During the two phases of soil sampling BTEX, MEK, methylene chloride and lead were detected in soil and groundwater samples. The Parsons Site Investigation conducted in 1996/1997 concluded that the contamination under the pad was not due to historic operations at the pad, but due to historical waste management activities conducted in the entire West Yard area.	No Further Action is recommended.
AOI W-3: Former Plant 8 Flammable Liquids Storage Tank Farm						
Northwestern corner of the DA.	Yes	No	Area consisted of a north and a south area each contained within a 3-foot high dike. These areas held a total of nine ASTs with five ASTs in the north area and four in the south area. The ASTs ranged in size from 13,000 to 26,000 gallons. The ASTs were used to store diesel fuel, line thinner, gasoline and solvents.	It is reported that the soils under the Tank Farm contain hydrocarbon contamination.	Keck evaluated the extent of hydrocarbon contamination. This investigation indicated hydrocarbons from ground level to 8 to 16-feet bgs where a clay layer impeded the downward flow of hydrocarbons. There is no indication of remedial activities being conducted in the area of the Tank Farm.	Further Action is recommended.

TABLE 6-5
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - DEMOLITION AREA

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI W-4: Transformer Substation D-1						
Located in the southeast quadrant of former Plant 8.	Yes	No	PCB-containing transformers were removed from the substation D-1 prior to the demolition of Plant 8 in 1997.	Following the removal of the transformers, staining was observed on the concrete floor and was subsequently removed by the contractor. Post-cleanup wipe samples indicated remaining PCB contamination.	SUNPRO removed 2 to 3 inches of concrete from the transformer footprint while under negative air pressure to suppress dust migration. Post-remedial wipe samples indicated compliance with U.S. EPA PCB clean-up requirements. The transformer substation D-1 has been decommissioned, remediated and demolished.	No Further Action is recommended
AOI W-5: Former Plant 8 Basement AST Area						
Located on the northern boundary of the West Yard area.	No	No	The basement of Plant 8 contained 17 ASTs ranging in size between 680 and 11,300 gallons. Undated documentation by CPC indicates that 15 of the ASTs were empty. The remaining two ASTs were both 7,400 gallons in size and were known to contain alkali/oily and weak metallic wastewaters.	No documentation on closure of ASTs.	Plant 8 was decommissioned and demolished. No correspondence was found with respect to closure of the ASTs.	Further Action is recommended.

TABLE 6-5
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - DEMOLITION AREA

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI W-6: Former Plant 8 Flammable Materials Storage Building						
Located in the northwestern corner of the DA.	No	No	The Material Storage Building was known to house 17 tanks containing oils and glycols. 9 of the tanks were 15,000 gallons and 8 were 22,000 gallons. The doors of the building were above level causing the storage building to act as a diked area. Truck and railroad unloading areas had catch basins attached to the WWTP.	No documentation of closure of tanks.	The Flammable Materials Storage Building has been decommissioned and demolished. No documentation available for closure	Further Action is recommended.
AOI W-7: Former Plant 9 Turbo Tank (Tank 9-1)						
Located immediately northwest of former Plant 9.	Yes	No	This registered UST was installed as early as 1983 and was used for storing gasoline. Tank 9-1 was removed in June 1991.	None.	In a letter from the CPC to the Michigan State Police, dated June 27, 1991, a "UST Closure Site Assessment" is mentioned; the TEC report could not be located. The letter states that the TEC "Closure Site Assessment" showed no contamination with respect to the UST removal, and was therefore considered closed by the CPC.	No Further Action is recommended
AOI W-8: Former Plant 9 Basement AST Area						
Located immediately south of Plant 8.	No	No	The basement contained 12 ASTs which previously contained kerosene, coolant, and unknown material.	No documentation of AST closure. Kerosene-like odors encountered in storm sewer.	Plant 9 has been decommissioned and demolished, with no documentation available.	Further Action is recommended.

TABLE 6-5
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PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - DEMOLITION AREA

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI W-9: Former Central Foundry (Plant 6) Resin Spill and UST						
Located in the southern portion of DA and was bordered to the south by Moncalm Ave, on the west by the West Yard, on the east by Glenwood Ave and on the north by Plant 9.	Yes	No	The Foundry produced grey iron from metallic ore to be casted into automotive parts. The Foundry ceased production and closed in May 1987, and was demolished on April 19, 1995. Foundry sand was used as fill material in the West Yard (AOI W-1).	The Resin Storage Building located in the northwest quadrant of the facility is known to have released resin from leaking sump drains. Soil and groundwater were known to contain resin related contaminants (kerosene and phenols), BTEXs, and TCE and its breakdown products. No documentation available on 20,000-gallon UST.	A RCRA Part A permit application was filed on November 17, 1980 and was withdrawn on July 12,1982 on the basis that the baghouse dust was not a hazardous waste under 40 CFR part 261. August - December 1985 Schleede-Hampton performed a preliminary exploration of the resin storage facility area. Concluded resin is confined to within 20 feet of the Resin Storage Building. The "Results of Final Soil Sampling and Analysis for Clean-Up Verification" report by Schleede-Hampton summarized the remedial activities. This consisted of the excavation of resin contaminated soils and analytical testing to verify compliance.	Further Action is recommended.

TABLE 6-5
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - DEMOLITION AREA

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI W-9: Former Central Foundry (Plant 6) (cont.)						
					The MDNR approved the Site as "closed" on December 11, 1989 with respect to resin contamination. The Deactivation Assessment" report by O'Brien & Gere Engineers reported PCB and heavy metal concentrations above guidelines for soil. PCB Sampling report summarizes the investigation and remedial actions taken with respect to PCB removal. Aroclor 1242 detected in soil samples at one location. Wipe samples showed the area did not exceed guidelines for soil.	
AOI W-10: Railroad Marshalling Area Drainage System						
Extends the entire length of the western boundary of the West Yard.	Yes	No	The Area was used for the temporary storage of railcars loaded with scrap metal and grinding waste. This allowed for waste oils to drain out of the cars and into the railway ballast/soil immediately beneath the tracks.	In July 1971, an oily discharge was noted in a culvert immediately south of the Marshalling Area which drains into Harris Lake. The discharge was also noted to be draining into a storm sewer in the immediate area which also drained into Harris Lake.	The Oakland County Environmental Health Department obtained a water sample that contained 214,000 counts of coliform. CPC began pumping the contaminated water to the CPC WWTP and initiated daily monitoring of the area.	Further Action is recommended.

TABLE 6-5
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - DEMOLITION AREA

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI W-11: Salvage Yard Sump Drain						
The location of the sump drain is unclear. The Salvage Building was located on the western boundary of the West Yard, north of the Compressor Building, and immediately east of the rail lines.	Yes	No	During June and July 1985, 69 barrels of liquid were dumped down the Salvage Yard sump drain. Internal CPC documentation indicates that numerous City Sewer Ordinance limits were breached, including: Chloride concentrations exceeded limits on each of the eight days of dumping; TKN concentrations exceeded limits on six of the eight days of dumping; and Nickel concentrations exceeded limits on two of the days of dumping.	No documentation exists on the integrity of the sump. Liquids of unknown constituents dumped into sump.	No documented investigations or remedial actions found.	Further Action is recommended.
AOI W-12: Catalina Substation (GM owns; leased to Edison)						
Power station south of Montcalm Street and east of storm water retention pond.	No	Yes	Reported spills of PCB-containing oils.	Constituents of concern include PCBs.	GM initiated sampling of PCB-containing soils in August 1985. PCB impacted soils were subsequently removed.	No Further Action is recommended.
AOI W-13: Montcalm Substation						
Substation east of Saginaw Street and north of Montcalm Street.	No	Yes	Transformer oil used at substation. No documented releases.	Constituents of concern include PCBs.	No documented investigations or remedial actions found.	Further Action is recommended.

TABLE 6-6
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

STORAGE TANK SUMMARY - DEMOLITION AREA (DA)

AOI #	Building Association	Tank No.	Date Installed	Type	Size (feet)	Capacity (gallons)	Materials Stored	Status	Construction
W-3	Former Plant 8 (Tank Farm)	8-1		AST		26,600	Diesel Fuel	Removed	Unknown
		8-2		AST		26,600	Line Thinner	Removed	Unknown
		8-3		AST		20,700	Gasoline	Removed	Unknown
		8-4		AST		20,700	Gasoline	Removed	Unknown
		8-5		AST		20,700	Gasoline	Removed	Unknown
		8-6		AST		20,700	Gasoline	Removed	Unknown
		8-7		AST		20,700	EMPTY	Removed	Unknown
		8-8		AST		13,300	Gasoline	Removed	Unknown
		8-9		AST		12,000	Windshield Washer Solvent	Removed	Unknown
W-5	Former Plant 8 (Basement)	8-11		AST		7,400	EMPTY	Removed	Unknown
		8-12		AST		7,400	EMPTY	Removed	Unknown
		8-13		AST		7,400	EMPTY	Removed	Unknown
		8-14		AST		11,300	EMPTY	Removed	Unknown
		8-15		AST		11,300	EMPTY	Removed	Unknown
		8-16		AST		680	EMPTY	Removed	Unknown
		8-17		AST		680	EMPTY	Removed	Unknown
		8-18		AST		680	EMPTY	Removed	Unknown
		8-19		AST		7,400	EMPTY	Removed	Unknown
		8-20		AST		7,400	EMPTY	Removed	Unknown
		8-23		AST		11,300	EMPTY	Removed	Unknown
		8-24		AST		11,300	EMPTY	Removed	Unknown
		8-27		AST		7,400	Weak Metallic Wastewater	Removed	Unknown
		8-28		AST		7,400	Alkali/Oily Wastewater	Removed	Unknown
		8-29		AST		11,300	EMPTY	Removed	Unknown
		8-30		AST		11,300	EMPTY	Removed	Unknown
		8-31		AST		11,300	EMPTY	Removed	Unknown
W-6	Former Plant 8 (Flammable Liquid Storage Building)	FLB-1		AST		22,000	Engine Oil	Removed	Unknown
		FLB-2		AST		22,000	Transmission Fluid	Removed	Unknown
		FLB-3		AST		15,000	Engine Oil	Removed	Unknown
		FLB-4		AST		15,000	Cutting Oil	Removed	Unknown
		FLB-5		AST		15,000	Power Steering Fluid	Removed	Unknown
		FLB-6		AST		15,000	Engine Oil	Removed	Unknown
		FLB-7		AST		15,000	General Purpose Lubricant	Removed	Unknown

TABLE 6-6
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

STORAGE TANK SUMMARY - DEMOLITION AREA (DA)

AOI #	Building Association	Tank No.	Date Installed	Type	Size (feet)	Capacity (gallons)	Materials Stored	Status	Construction
W-6	Former Plant 8 (Flammable Liquid Storage Building)	FLB-8		AST		22,000	Transmission Fluid	Removed	Unknown
		FLB-9		AST		22,000	Hydraulic Oil	Removed	Unknown
		FLB-10		AST		15,000	Mixed Glycol	Removed	Unknown
		FLB-11		AST		15,000	Mixed Glycol	Removed	Unknown
		FLB-12		AST		22,000	Concentrated Glycol	Removed	Unknown
		FLB-13		AST		22,000	Soluble Oil	Removed	Unknown
		FLB-14		AST		15,000	EMPTY	Removed	Unknown
		FLB-15		AST		15,000	EMPTY	Removed	Unknown
		FLB-16		AST		22,000	Mineral Seal	Removed	Unknown
		FLB-17		AST		22,000	Hypoid Gear Oil	Removed	Unknown
W-7	Former Plant 9 (Turbo Tank)	9-1		UST		550	Gasoline	Removed in 1991	Fiberglass
W-8	Former Plant 9 (Basement)	9-2		AST		10,000	Kerosene (Mineral Seal)	Removed	Unknown
		9-3		AST		10,000	Kerosene (Mineral Seal)	Removed	Unknown
		9-4		AST		10,000	Kerosene (Mineral Seal)	Removed	Unknown
		9-5		AST		10,000	Kerosene (Mineral Seal)	Removed	Unknown
		9-6		AST		6,400	Kerosene (Mineral Seal)	Removed	Unknown
		9-7		AST		1,400	EMPTY	Removed	Unknown
		9-8		AST		1,400	EMPTY	Removed	Unknown
		9-9		AST		2,000	EMPTY	Removed	Unknown
		9-10		AST		10,000	Coolant 141-KC	Removed	Unknown
		9-11		AST		10,000	Coolant 141-KC	Removed	Unknown
		9-12		AST		10,000	Coolant 141-KC	Removed	Unknown
		9-13		AST		10,000	Coolant 141-KC	Removed	Unknown

TABLE 6-7
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI W-1

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
West Yard - Surface Soil Analytical Results (Parsons, 1997)								
Volatile Organics								
Acetone	20	13	2.3	360	15,000	42,000	23,000,000	110,000,000
Benzene	20	2	3.1	6.4	100	100	1,000	400,000
2-Butanone (MEK)	20	7	3.5	67	260,000	260,000	27,000,000	27,000,000
1,4-Dichlorobenzene	20	2	2.4	5.6	1,700	1,700	400,000	2,900,000
Ethylbenzene	20	4	2.5	24	1,500	1,500	140,000	140,000
2-Hexanone	20	2	4.0	4.1	20,000	58,000	2,500,000	2,500,000
4-Methyl-2-pentanone (MIBK)	20	2	4.2	16	Not Regulated			
Methylene chloride	20	4	2.8	6.7	Not Regulated			
Tetrachloroethene	20	4	2.8	18	100	100	88,000	88,000
Toluene	20	7	2.7	27	16,000	16,000	250,000	250,000
Trichloroethene	20	1		27	100	100	500,000	500,000
Xylenes (total)	20	6	2.8	79	5,600	5,600	150,000	150,000
Semivolatile Organics								
Acenapthene	19	4	51	36,000	300,000	880,000	41,000,000	200,000,000
Acenaphthylene	20	3	27	2,000	5,900	1,700	1,600,000	8,000,000
Anthracene	20	8	20	21,000	41,000	41,000	230,000,000	1,000,000,000
Benzo(a)anthracene	20	13	24	15,000	NLL	NLL	20,000	100,000
Benzo(a)pyrene	20	12	24	8,600	NLL	NLL	2,000	10,000
Benzo(b)fluoranthene	20	12	46	11,000	NLL	NLL	20,000	100,000
Benzo(ghi)perylene	20	12	20	4,500	NLL	NLL	2,500,000	9,100,000
Benzo(k)fluoranthene	20	10	25	5,300	NLL	NLL	200,000	1,000,000
bis(2-Ethylhexyl)phthalate	20	7	23	1,300	NLL	NLL	2,800,000	10,000,000
Butyl benzyl phthalate	20	9	120	32,000	310,000	310,000	310,000	310,000
Carbazole	20	5	19	11,000	9,400	39,000	530,000	3,700,000
Chrysene	20	14	30	16,000	NLL	NLL	2,000,000	10,000,000
Di-n-butyl phthalate	20	2	39	240	760,000	760,000	760,000	760,000
Dibenz(a,h)anthracene	20	4	23	180	NLL	NLL	2,000	10,000
Dibenzofuran	20	7	18	27,000	ID	ID	ID	ID

TABLE 6-7
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI W-1

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
West Yard - Surface Soil Analytical Results (Parsons, 1997)								
2,4-Dimethylphenol	20	2	120	250	7,400	20,000	11,000,000	56,000,000
Fluoranthene	20	13	30	82,000	730,000	730,000	46,000,000	180,000,000
Fluorene	19	6	78	36,000	390,000	890,000	27,000,000	130,000,000
Indeno(1,2,3-cd)pyrene	20	12	19	3,700	NLL	NLL	20,000	100,000
2-Methylnapthalene	20	15	28	23,000	57,000	170,000	8,100,000	40,000,000
2-Methylphenol	20	2	260	930	7,400	20,000	11,000,000	56,000,000
3-Methylphenol	17	1		400	7,400	20,000	11,000,000	56,000,000
4-Methylphenol	20	2	140	450	7,400	20,000	11,000,000	56,000,000
Naphthalene	20	10	21	97,000	35,000	100,000	16,000,000	80,000,000
Phenanthrene	20	17	41	110,000	56,000	160,000	1,600,000	8,000,000
Phenol	20	3	23	2,100	88,000	260,000	12,000,000	12,000,000
Pyrene	20	15	20	50,000	480,000	480,000	29,000,000	110,000,000
PCBs								
Methoxychlor	16	1		90	16,000	16,000	1,900,000	7,700,000
Aroclor 1248	17	5	470	2,000	NLL	NLL	4,000	20,000
Aroclor 1254	17	4	340	1,100	NLL	NLL	4,000	20,000
Total PCBs	15	6	480	3100	NLL	NLL	4,000	20,000
Dioxins/Furans								
Total TEFs	5	5	2.60E-08	0.000566				
Inorganics								
Aluminum	20	20	438,000	8,500,000	6,900,000*	6,900,000*	50,000,000	660,000,000
Antimony	20	14	494	26,500	500	4,300	180,000	1,200,000
Arsenic	20	20	1,050	67,100	23,000	23,000	7,600	61,000
Barium	20	20	9,740	353,000	1,300,000	1,300,000	37,000,000	250,000,000
Beryllium	19	13	163	805	51,000	51,000	410,000	3,100,000
Cadmium	20	20	46.8	6,090	6,000	6,000	550,000	4,100,000
Calcium	19	19	2,710,000	89,700,000	Not Regulated			
Chromium	20	20	4,480	1,660,000	30,000	30,000	2,500,000	17,000,000
Cobalt	20	18	2,670	69,500	800	2,000	2,600,000	18,000,000

TABLE 6-7
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI W-1

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
West Yard - Surface Soil Analytical Results (Parsons, 1997)								
Copper	20	20	6,690	1,590,000	5,800,000	5,800,000	20,000,000	140,000,000
Cyanide	19	8	310	590	4,000	4,000	12,000	250,000
Iron	20	20	3,390,000	567,000,000	12,000,000*	12,000,000*	160,000,000	1,000,000,000
Lead	20	20	3,320	221,000	700,000	700,000	400,000	900,000
Magnesium	20	20	492,000	12,000,000	8,000,000	22,000,000	1,000,000,000	1,000,000,000
Manganese	20	20	78,500	4,600,000	440,000*	440,000*	25,000,000	170,000,000
Mercury	18	8	59.7	1,140	1,700	1,700	160,000	1,100,000
Nickel	20	20	5,140	601,000	100,000	100,000	40,000,000	270,000,000
Potassium	17	9	558,000	1,270,000	Not Regulated			
Selenium	16	3	515	1,090	4,000	4,000	2,600,000	18,000,000
Silver	17	6	357	1,640	4,500	13,000	2,500,000	17,000,000
Sodium	19	19	109,000	675,000	2,500,000	7,000,000	1,000,000,000	1,000,000,000
Tin	5	3	13,100	84,000	Not Regulated			
Vanadium	20	20	4,740	53,700	72,000	990,000	750,000	10,000,000
Zinc	20	20	11,100	3,640,000	2,400,000	5,000,000	170,000,000	1,000,000,000
Other								
Sulfide	4	1		100,000	Not Regulated			
Total Solids, Percent	19	19	84.1	94.61	Not Regulated			
West Yard - Subsurface Soil Analytical Results (Parsons, 1997)								
Volatile Organics								
Acetone	48	32	2.5	2,200	15,000	42,000	23000000	110,000,000
Benzene	47	1		720	100	100	1,000	400,000
2-Butanone (MEK)	47	27	2.2	1,600	260,000	260,000	27,000,000	27,000,000
Carbon disulfide	48	3	2.6	9.6	16,000	46,000	280,000	280,000
1,4-Dichlorobenzene	48	1		2.7	1,700	1,700	400,000	2,900,000
1,1-Dichloroethane	48	2	16	21	18,000	50,000	890,000	890,000
Ethylbenzene	47	7	4.1	25,000	1,500	1,500	140,000	140,000

TABLE 6-7
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI W-1

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
West Yard - Subsurface Soil Analytical Results (Parsons, 1997)								
2-Hexanone	48	1		2.5	20,000	58,000	2,500,000	2,500,000
4-Methyl-2-pentanone (MIBK)	45	2	3	3.9	Not Regulated			
Methylene chloride	47	6	2.4	25,000	Not Regulated			
Tetrachloroethene	47	8	2.3	7.5	100	100	88,000	88,000
Toluene	48	9	2.4	42,000	16,000	16,000	250,000	250,000
Vinyl chloride	48	2	4	15	40	40	4,000	29,000
Xylenes (total)	48	9	6.8	150,000	5,600	5,600	150,000	150,000
cis-1,2-Dichloroethene	46	2	8.6	16	1,400	1,400	640,000	640,000
Semivolatile Organics								
Acenapthene	29	7	24	14,000	300,000	880,000	41,000,000	200,000,000
Anthracene	33	8	20	11,000	41,000	41,000	230,000,000	1,000,000,000
Benzo(a)anthracene	29	10	42	7,700	NLL	NLL	20,000	100,000
Benzo(a)pyrene	29	6	25	690	NLL	NLL	2,000	10,000
Benzo(b)fluoranthene	29	9	28	8,300	NLL	NLL	20,000	100,000
Benzo(ghi)perylene	29	7	21	4,200	NLL	NLL	2,500,000	9,100,000
Benzo(k)fluoranthene	28	4	36	460	NLL	NLL	200,000	1,000,000
Butyl benzyl phthalate	28	6	130	1,100,000	310,000	310,000	310,000	310,000
Carbazole	28	3	21	110	9,400	39,000	530,000	3,700,000
Chrysene	29	10	47	12,000	NLL	NLL	2,000,000	10,000,000
Di-n-butyl phthalate	28	1		480,000	760,000	760,000	760,000	760,000
Di-n-octyl phthalate	47	1		37,000	100,000,000	140,000,000	6,900,000	28,000,000
Dibenz(a,h)anthracene	28	3	18	250	NLL	NLL	2,000	10,000
Dibenzofuran	27	6	22	13,000	ID	ID	ID	ID
2,4-Dimethylphenol	28	6	24	72,000	7,400	20,000	11,000,000	56,000,000
Fluoranthene	27	13	38	22,000	730,000	730,000	46,000,000	180,000,000
Fluorene	26	10	40	26,000	390,000	890,000	27,000,000	130,000,000
Indeno(1,2,3-cd)pyrene	28	5	27	510	NLL	NLL	20,000	100,000

TABLE 6-7
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI W-1

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
West Yard - Subsurface Soil Analytical Results (Parsons, 1997)								
2-Methylnapthalene	27	17	24	120,000	57,000	170,000	8,100,000	40,000,000
2-Methylphenol	26	6	25	320	7,400	20,000	11,000,000	56,000,000
3-Methylphenol	9	2	54	110	7,400	20,000	11,000,000	56,000,000
4-Methylphenol	28	6	45	70,000	7,400	20,000	11,000,000	56,000,000
Naphthalene	29	13	22	70,000	35,000	100,000	16,000,000	80,000,000
Pentachloroethane	9	1		99	Not Regulated			
Phenanthrene	29	18	23	52,000	56,000	160,000	1,600,000	8,000,000
Phenol	47	3	110	140,000	88,000	260,000	12,000,000	12,000,000
Pyrene	27	13	24	17,000	480,000	480,000	29,000,000	110,000,000
bis(2-Ethylhexyl)phthalate	29	6	24	35,000	NLL	NLL	2,800,000	10,000,000
PCBs								
Aroclor 1248	29	6	830	31,000	NLL	NLL	4,000	20,000
Aroclor 1254	29	4	840	12,000	NLL	NLL	4,000	20,000
Total PCBs	29	6	1,670	43,000	NLL	NLL	4,000	20,000
Dioxins/Furans								
Total TEFs	7	6	7.80E-08	0.00014				
Inorganics								
Aluminum	29	29	625,000	10,800,000	6,900,000*	6,900,000*	50,000,000	660,000,000
Antimony	29	16	341	1,740,000	500	4,300	180,000	1,200,000
Arsenic	29	29	603	35,700	23,000	23,000	7,600	61,000
Barium	29	29	4,590	5,720,000	1,300,000	1,300,000	37,000,000	250,000,000
Beryllium	29	9	163	1,050	51,000	51,000	410,000	3,100,000
Cadmium	29	26	36.8	10,700	6,000	6,000	550,000	4,100,000
Calcium	29	28	1,230,000	425,000,000	Not Regulated			
Chromium	29	29	1,690	1,020,000	30,000	30,000	2,500,000	17,000,000
Cobalt	29	10	3,070	34,600	800	2,000	2,600,000	18,000,000
Copper	29	29	2,790	2,370,000	5,800,000	5,800,000	20,000,000	140,000,000
Cyanide	29	12	380	4,100	4,000	4,000	12,000	250,000
Iron	29	29	2,060,000	376,000,000	12,000,000*	12,000,000*	160,000,000	1,000,000,000

TABLE 6-7
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI W-1

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
West Yard - Subsurface Soil Analytical Results (Parsons, 1997)								
Lead	29	28	711	1,350,000	700,000	700,000	400,000	900,000
Magnesium	29	29	328,000	23,900,000	8,000,000	22,000,000	1,000,000,000	1,000,000,000
Manganese	29	29	32,400	3,900,000	440,000*	440,000*	25,000,000	170,000,000
Mercury	29	6	82.1	2,230	1,700	1,700	160,000	1,100,000
Nickel	29	29	3,060	354,000	100,000	100,000	40,000,000	270,000,000
Potassium	29	4	551,000	2,690,000	Not Regulated			
Selenium	29	7	316	7,670	4,000	4,000	2,600,000	18,000,000
Silver	29	2	886	2,370	4,500	13,000	2,500,000	17,000,000
Sodium	29	29	159,000	2,490,000	2,500,000	7,000,000	1,000,000,000	1,000,000,000
Tin	29	1		51,300	Not Regulated			
Vanadium	29	28	4,620	61,400	72,000	990,000	750,000	10,000,000
Zinc	29	29	3,960	4,040,000	2,400,000	5,000,000	170,000,000	1,000,000,000
West Yard - Groundwater Analytical Results (Parsons, 1997)								
Volatile Organics								
Acetone	18	10	4	8.4	730	2,100	31,000,000	
Benzene	22	9	1	22	5.0	5.0	11,000	
2-Butanone (MEK)	17	1		2.6	13,000	38,000	240,000,000	
Chloroethane	18	10	1.6	24	430	1,700	440,000	
1,1-Dichloroethane	18	9	1.1	30	880	2,500	2,400,000	
1,2-Dichloroethane	18	2	1.3	1.4	5.0	5.0	19,000	
Ethylbenzene	17	1		56	74	74	170,000	
Toluene	17	2	1.1	38	790	790	530,000	
Vinyl chloride	22	10	5	310	2	2	570	
Xylenes (total)	17	2	4.8	170	280	280	190,000	
cis-1,2-Dichloroethene	19	9	1.5	89	70	70	11,000	

TABLE 6-7
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI W-1

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
West Yard - Groundwater Analytical Results (Parsons, 1997)								
Semivolatile Organics								
Anthracene	17	1		2.6	43	43	43	
Benzyl alcohol	7	2	9.8	11	10,000	29,000	44,000,000	
Butyl benzyl phthalate	17	2	4	4.2	1,200	2,700	2,700	
Chrysene	17	1		0.69	5	5	5	
2,4-Dimethylphenol	20	7	2.8	390	370	1,000	520,000	
Fluoranthene	17	1		2.7	210	210	210	
Fluorene	17	2	7.3	10	880	2,000	2,000	
2-Methylnapthalene	21	9	1.7	150	260	750	25,000	
2-Methylphenol	17	3	7.6	49	370	1,000	810,000	
3-Methylphenol	7	2	0.99	1.2	370	1,000	810,000	
4-Methylphenol	17	2	1.1	1.3	370	1,000	810,000	
Naphthalene	17	5	0.58	10	520	1,500	31,000	
Phenanthrene	17	6	0.62	25	52	150	1,000	
Pyrene	17	1		3.6	140	140	140	
bis(2-Ethylhexyl)phthalate	20	4	0.92	16	6.0	6.0	320	
PCBs								
Aroclor 1221	1	1		0.16	0.5	0.5	3.3	
Aroclor 1248	21	7	0.11	37	0.5	0.5	3.3	
Aroclor 1254	21	1		0.35	0.5	0.5	3.3	
Total PCBs	22	8	0.11	37	0.5	0.5	3.3	
Dioxins/Furans								
Total TEFs	23	23	1.30E-07	0.00117				
Inorganics, Filtered								
Aluminum	23	15	100	708	50	50	64,000,000	
Arsenic	17	9	5	29.2	50	50	4,300	
Barium	17	12	206	1,910	2,000	2,000	14,000,000	
Calcium	32	32	10,700	425,000	Not Regulated			
Iron	31	31	100	56,200	300	300	58,000,000	

TABLE 6-7
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI W-1

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
West Yard - Groundwater Analytical Results (Parsons, 1997)								
Lead	16	1		5.1	0.20	0.20	ID	
Magnesium	18	18	9,340	114,000	400,000	1,100,000	1,000,000,000	
Manganese	31	31	28	2,820	50	50	9,100,000	
Nickel	21	1		104	100	100	74,000,000	
Potassium	29	26	12,800	40,700	Not Regulated			
Sodium	30	30	77,800	1,780,000	120,000	350,000	1,000,000,000	
Zinc	17	6	26	258	2,400	5,000	110,000,000	
Other								
Cyanide	19	7	21	4,500	200	200	57,000	
Sulfide	11	7	0.5	5,000	Not Regulated			

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

[1] MDEQ generic drinking water criteria are presented for groundwater.
MDEQ generic drinking water protection criteria are presented for soils.

[2] MDEQ generic groundwater contact criteria are presented for groundwater.
MDEQ generic direct contact criteria are presented for soils.

Shading indicates that at least one sample exceeded the criteria.

TABLE 6-8
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI W-2

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Hazardous Waste Storage Pad - Soil (Dames & Moore, 1989)								
Volatile Organics (ug/kg)								
Benzene	88	17	2,000	20,000	100	100	1,000	400,000
Toluene	88	17	2,000	290,000	16,000	16,000	250,000	250,000
Xylenes	88	20	4,000	600,000	5,600	5,600	150,000	150,000
1,1,1-Trichloroethane	88	5	300	410,000	4,000	4,000	460,000	460,000
Methylene Chloride	88	47	2,000	78,000	100	100	1,300,000	2,300,000
Methyl Ethyl Ketone (MEK)	88	35	55,000	770,000	260,000	760,000	27,000,000	27,000,000
Inorganics (ug/kg)								
Lead	88	73	2,000	590,000	700,000	700,000	400,000	900,000
Hazardous Waste Storage Pad - Soil (GTI, 1990a)								
Volatile Organics (ug/kg)								
1,1,1-Trichloroethane	8	3	15	35	4,000	4,000	460,000	460,000
Ethylbenzene	8	7	3.0	85	1,500	1,500	140,000	140,000
Toluene	8	7	6.0	230	16,000	16,000	250,000	250,000
Xylenes	8	8	6.0	300	5,600	5,600	150,000	150,000
Hazardous Waste Storage Pad - Groundwater (Dames & Moore, 1989)								
Volatile Organics (ug/L)								
Benzene	5	2	4.0	9.0	5.0	5.0	11,000	
Toluene	5	1		20	790	790	530,000	
Xylenes	5	1		3.0	280	280	190,000	
Inorganics (ug/L)								
Aluminum	1	1		860	50	50	64,000,000	
Arsenic	1	1		9.0	50	50	4,300	
Barium	1	1		100	2,000	2,000	14,000,000	
Calcium	1	1		63,000	Not Regulated			
Iron	1	1		3,600	300	300	58,000,000	
Lead	5	1		110	0.20	0.20	ID	

TABLE 6-8
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI W-2

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Hazardous Waste Storage Pad - Groundwater (Dames & Moore, 1989)								
Inorganics (ug/L)								
Magnesium	1	1		10,000	400,000	1,100,000	1,000,000,000	
Nickel	1	1		30	100	100	74,000,000	
Zinc	1	1		70	2,400	5,000	110,000,000	
Hazardous Waste Storage Pad - Groundwater (GTI, 1990a)								
Volatile Organics (ug/L)								
Benzene	8	4	2.0	110	5.0	5.0	11,000	
Ethylbenzene	7	1		8	74	74	170,000	
Toluene	8	6	3.0	375	790	790	530,000	
Xylenes (total)	8	5	2.0	40	280	280	190,000	

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.
Only constituents with at least one detection are shown on the table.
[1] MDEQ generic drinking water criteria are presented for groundwater.
MDEQ generic drinking water protection criteria are presented for soils.
[2] MDEQ generic groundwater contact criteria are presented for groundwater.
MDEQ generic direct contact criteria are presented for soils.
Shading indicates that at least one sample exceeded the criteria.

TABLE 6-9
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI W-9

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Former Plant 6 Foundry - Subsurface Soil (SHA, 1988)								
Volatile Organics (ug/kg)								
Ethylbenzene	25	9	1.0	7.0	1,500	1,500	140,000	140,000
Methylene chloride	25	15	3.0	7.0	Not Regulated			
Toluene	25	11	2.0	60	16,000	16,000	250,000	250,000
Xylenes	25	14	1.0	35	5,600	5,600	150,000	150,000
Semivolatile Organics (ug/kg)								
Acenaphthalene	25	1		3				
bis(2-Ethylhexyl)phthalate	25	4	2.0	10	NLL	NLL	2,800,000	10,000,000
Butyl Isobutyl Phthalate	25	1		20	Not Regulated			
Diethyl Phthalate	25	1		16	110,000	320,000	740,000	740,000
Di-n-butyl phthalate	25	19	2.0	20	760,000	760,000	760,000	760,000
Naphthalene	25	1		48	35,000	100,000	16,000,000	80,000,000
Other (ug/kg)								
Kerosene	25	15	140	1,550	Not Regulated			
Dibasic Esters	25	1		300	Not Regulated			
Formaldehyde	25	1		6.0	26,000	76,000	41,000,000	60,000,000
Hexanedioic Acid/Dioctyl Ester	25	4	2.0	50	Not Regulated			
Former Plant 6 Foundry - Groundwater (SHA, 1988)								
Volatile Organics (ug/L)								
Benzene	26	1		10	5.0	5.0	11,000	
Chloroform	26	1		55	100	100	150,000	
1,1-Dichloroethane	26	2	5.0	25	880	2,500	2,400,000	
Ethylbenzene	26	3	12	200	74	74	170,000	
Methyl chloride	26	3	370	2,700	Not Regulated			
Trans 1,2-Dichloroethene	26	2	1,000	1,540	100	100	220,000	
Toluene	26	9	3.0	225	790	790	530,000	
1,1,1-Trichloroethane	26	1		20	200	200	1,300,000	
Trichloroethene	26	4	4.0	530	5.0	5.0	37,000	
Xylenes	26	7	4.0	3,700	280	280	190,000	

See Notes, Page 2.

TABLE 6-9
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI W-9

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Former Plant 6 Foundry - Groundwater (SHA, 1988)								
Semivolatile Organics (ug/L)								
Anthracene	26	4	80	17,000	43	43	43	
Benzo(a)pyrene	26	2	1,100	1,100	5.0	5.0	5.0	
bis(2-Ethylhexyl)phthalate	26	13	4.0	6,600	6.0	6.0	320	
Chrysene	26	2	1,900	4,600	5.0	5.0	5.0	
Naphthalene	26	7	27	230,000	520	1,500	31,000	
Pentachlorophenol	26	1		1,450	1.0	1.0	200	
Phenol	26	11	22	40,000	4,400	13,000	29,000,000	
Pyrene	26	1		1,300	140	140	140	
Other (ug/L)								
Kerosene	24	11	125	289,000	Not Regulated			
Dibasic Esters	26	1		1,000	Not Regulated			

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

[1] MDEQ generic drinking water criteria are presented for groundwater (June 2000 criteria revision).
MDEQ generic drinking water protection criteria are presented for soils (June 2000 criteria revision).

[2] MDEQ generic groundwater contact criteria are presented for groundwater (June 2000 criteria revision).
MDEQ generic direct contact criteria are presented for soils (June 2000 criteria revision).

Shading indicates that at least one sample exceeded the criteria.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-1: Wastewater Treatment Plant Area						
West of Plant 14 and Plants 5 and 23.	1986 USEPA Spill Release Survey	Yes	The WWTP began operation in March 1957. Metals, including hexavalent chromium, from the paint booths, ELPO, the powerhouse, and assembly were treated. Alkali/oily wastes from the engine plants, metal stamping, and parts washers were also treated. Numerous ASTs containing a variety of materials. No secondary containment is present around the ASTs. The WWTP discharges to Outfall-003, then to the Pontiac POTW.	Historical documented spills including alkali/oily water, cyanide plating solution, acidic alkali water, lime slurry, reclaimed oil, strong metallic water, and chrome and cyanide solutions. Historical documented exceedances of phenol, lead, and hexavalent chromium at Outfall-003. Evidence of recent spills was observed during the August 2000 Site walkover.	CRA conducted a preliminary subsurface boring program adjacent to the WWTP area in September 1999. No remedial actions have been conducted.	Further Action is recommended.
AOI M-2: Former Plating Operations Area						
West portion of Plant 2, near Dock 34.	No	No	Process plating pits and metal mix tanks below concrete floor east of the plating pits. Signs of corrosion in the process plating pits and area truck docks were observed during the August 2000 Site walkover. Water from leaking roof accumulated in some of the pits and docks.	Poor integrity of concrete pits. Use of heavy metals, including hexavalent chromium and chlorinated solvents.	Limited surface investigation in the area of the plating pits. Exceedances of cleanup criteria were identified in residuals in floor trenches, pits, vaults, sumps, and concrete flooring for the following parameters: arsenic, chromium, copper, lead, cyanide, PCBs, corrosivity, and reactivity.	Further Action is recommended.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-3: Former Track 31						
West of Plant 14 and northwest of the WWTP.	No	No	Railroad spur used for transporting materials within the facility.	Staining was observed in October 1986. Subsequent investigations determined the area was contaminated with PCBs.	Soil and groundwater investigations were performed between December 1986 and January 1995. A soil investigation was performed in 1995. Eight groundwater monitoring wells were installed in 1988 and sampled between 1988 and 1993. It was concluded that groundwater was not impacted. A RAP for Part 201 industrial/restricted access closure was submitted in July 1996. Between September 1996 and October 1996, approximately 3,609 tons of debris (including rail materials and soil) were removed. A RAP completion report was submitted to the MDEQ in January 1997.	No Further Action is recommended.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-4: Plant 25 Former Gasoline UST and Current Gasoline AST Location						
Northwest corner of MFD adjacent to Plant 33 (formerly Plant 55).	No	No	Underground tank of 20,000 gallon capacity. The tank contained regular leaded gasoline at the time of the 1985 release. No evidence of the former UST or remediation project was observed during the August 2000 Site walkover. 1000-gallon AST used for storing gasoline. The AST is surrounded with a secondary containment basin with a blind sump.	Documented release of gasoline in March 1985. 1991 groundwater quality data shows exceedance of Part 201 criteria for benzene.	The tank was removed in March 1985. Approximately 1,100 cubic yards of soil were also removed. Approximately 2,000 gallons of free gasoline were recovered from the excavation. Three monitoring wells and a hydrocarbon recovery system were installed. The recovery system was operated from 1985 to 1987. In 1987, MDEQ granted "no further remedial action" for the area.	Further Action is recommended.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-5: Former A-2 Fill Area						
Extends under Plant 25, Plant 33, Plant 75, and associated parking lots.	SWMU (GM, 1986_)	No	A nonsalvage material dump area for materials related to engine assembly, car assembly, foundry operations, painting, stamping, engine machining, metal plating, and wastewater treatment. GM submitted CERCLA Section 103(c) notification to USEPA in 1980 that included notification of the fill area. GM submitted a potential release survey to USEPA in 1986 that included notification of the fill area. No signs of the former fill area were observed during the August 2000 Site walkover. The area is located under buildings and paved lots.	Possible PCB-containing oils, heavy metals from foundry waste, solvent materials, and hydrocarbons.	CRA conducted a soil and groundwater investigation in 1999. VOCs, SVOCs, PCBs, pesticides, cyanide, and metals were detected in soil below applicable generic MDEQ Part 201 criteria. Low levels of VOCs, SVOCs, and pesticides were detected in groundwater. Bis(2-ethylhexyl)phthalate was detected above generic MDEQ Part 201 Generic Industrial Cleanup criteria. No remedial actions have been conducted	Further Action is recommended.
AOI M-6: Plant 5 Hydraulic Fluid Spill						
Adjacent to Plant 5	No	No	No evidence of stained soil was observed during the August 2000 Site walkover.	Spill of transformer fluid in September 1992 Spill of hydraulic fluid in September 1995.	The spilled hydraulic fluid was tested and PCBs were confirmed to be present in the fluid. Blacktop, concrete, and soil were excavated from the spill area. Excavated materials filled two 20 cubic yard roll-off boxes.	No Further Action is recommended.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-7: ELPO Building						
The ELPO building is located east of Plants 5 and 8 and southwest of Plant 18.	Yes	Yes	Purge thinner tank contents (dirty solvent storage). Numerous spills in the interior are evident. Fifteen ASTs (1988); contained: alkali cleaner, phosphoric acid, chromic acid, paint, paint bath. Phosphating process tanks; ELPO process tanks; possible PCB oil transformers present. During August 2000 site walk, it was observed that part of the concrete floor had a sealant on it, while other parts (along the east wall trench) were significantly corroded.	Constituents of concern include VOCs, PCBs, metals, and petroleum hydrocarbons. The outside east wall at the south end of the building was stained black, suggesting material had leaked from an inside tank.	There have been no previous investigations or remedial actions.	Further Action is recommended.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-8: Plant 25 Oil Storage Area						
West of Plant 25.	No	Yes	Six ASTs that contained soluble oil, hydraulic oil, semi-synthetic grinding oil, engine oil, and lubrication oil. The tanks do not have individual secondary containment, but the entire building is surrounded by a diked containment system that drains to the WWTP via Plant 25. A 300-gallon AST for diesel fuel is located just outside the building at the south end.	No documented releases from the oil storage ASTs or the diesel AST.	During August 2000 site walk, the concrete containment inside and outside the building was observed to be in good condition with no evidence of releases. No previous investigations or remedial actions.	No Further Action is recommended.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-9: Plant 11 Heat Treat Oil Storage Area						
Adjacent to Plant 2 to west and Plants 5 and 23 to south.	No	Yes	Four ASTs that historically stored oil and LC-7 coolant. Acidic materials may also have been used in the area. Only one tank is currently in use. The tank stores non-RCRA regulated used oil (code 021L). During the August 2000 Site walkover, three storage tanks containing "dirty quench oil - non-RCRA regulated" were observed along the east wall inside Plant 14 South. The tanks are located within a pit with a sump that discharges to the WWTP. Both the pit and sump had a moderate amount of oily liquid in them. Staining was also observed on the eastern outside wall of the building.	Constituents of concern include VOCs, PCBs, and petroleum hydrocarbons. Observed oily liquid in sumps.	No documentation available on AST closure. Three of the ASTs have been washed, rinsed, and sit empty.	Further Action is recommended.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-10: Plant 23 Basement AST Area						
Basement of Plant 23.	No	No	Three 12,500-gallon tanks that previously contained 593-KC synthetic coolant. The tanks have a below-grade containment system and a sump that discharges to the WWTP. The tanks are believed to be empty at this time.	No documented releases. The tanks were observed to be in good condition during the August 2000 Site walkover. The concrete on the floor around the containment was cracked and broken; however, there was no evidence of release.	Tanks are still in place and observed to be in good condition with no evidence of a release. No previous investigations or remedial actions.	No Further Action is recommended.
AOI M-11: Plant 12 Former Gasoline Storage Area						
North of Plant 12	No	No	480-gasoline AST used for storing unleaded gasoline. During the August 2000 Site walkover, the concrete slab along the north wall of Plant 12 was observed to be cracked.	Constituents of concern include BTEX, lead, and petroleum hydrocarbons.	Documentation does not exist on closure of the AST.	Further Action is recommended.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-12: AST East of Plant 49						
East of Plant 49 at the Water Storage Building	No	Yes	550-gallon AST historically used for storing fuel oil. The AST has a secondary containment system. Currently the AST contains diesel fuel for back-up heating. The secondary containment system was observed to be in good condition during the August 2000 Site walkover.	None.	During August 2000 site walk, the concrete containment basin and sump were observed to be in good condition with no evidence of releases. No previous investigations or remedial actions.	No Further Action is recommended.
AOI M-13: AST West of Plant 14						
West of Plant 14	No	No	480-gallon AST historically used to store diesel fuel. During the August 2000 Site walkover, two small fuel tanks were observed outside the west end of Plant 14. One was full and had secondary containment. The other was empty and not contained.	Constituents of concern include BTEX and petroleum hydrocarbons.	No closure information available for former AST.	Further Action is recommended.
AOI M-14: Current AST Area East of Plant 12						
East of Plant 12.	No	Yes	Two ASTs that store gasoline and diesel fuel. The ASTs were installed in 1999. Both have secondary containment systems and drain to a blind sump.	Constituents of concern include BTEX, lead, and petroleum hydrocarbons.	This area was observed during the August 2000 site walk. The concrete around the tanks was observed to be in good condition, with no evidence of release. No previous investigations or remedial actions.	No Further Action is recommended.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-15: Track 26						
Between Plants 56 and 14.	Yes	Yes	The railroad spur was used to haul materials to Plant 11, Plant 14, Plant 49, and Plant 56. No staining was observed during the August 2000 Site walkover.	Constituents of potential concern include VOCs, PCBs, metals, and petroleum hydrocarbons. No documented releases	Concrete and soil sampling program in 1998.	No Further Action is recommended.
AOI M-16: Plant 25 Basement Sump Area						
Basement of Plant 25 West.	No	Yes	Basement area containing several sumps. The north sump collected material from different areas of Plant 25 and pumped the material to a sludge holding tank in the basement. Three additional process pits collected oily water from a separation process. These pits have recently been filled in with flowable material.	Constituents of potential concern include VOCs, PCBs, metals, and petroleum hydrocarbons. No documented releases. This area was observed during the August 2000 Site walk. Several floor sumps were filled with oily liquid, some of which was overflowing onto the basement floor. Additional floor sumps containing oily liquid were observed along the east wall of the basement. The concrete floor appeared to be in good condition. The condition of the sumps could not be assessed because they were filled with oily liquid.	No documented investigations or remedial actions found.	Further Action is recommended.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-17: Plant 15 Southern Piping Trench.						
Southwest portion of Plant 15 basement.	No	Yes	A pit containing wastewater piping located in the basement of Plant 15, leading to the WWTP. The trench was located during the August 2000 Site walk; however, the trench could not be observed.	No documented releases.	No documented investigations or remedial actions found.	Further Action is recommended.
AO M-18: Plant 5 Waste Accumulation Area						
West end of Plant 5	No	Yes	Area containing non-hazardous waste and empty 55-gallon drums. The area has been used for this purpose since the 1980s. This area is slated for future demolition. No secondary containment system.	No documented releases. This area was observed during the August 2000 Site walkover. Numerous 55-gallon drums containing various motor oils.	Area is used for storing non-hazardous waste and empty drums. No previous investigations ore remedial actions.	No Further Action is recommended.
AOI M-19: Plant 5 Southern Access Railway						
Southwestern end of Plant 5.	No	Yes	The southern access railway for Plant 5 extends from the southwest corner of Plant 5 into the center of the plant. Soil is exposed under the railway.	Constituents of potential concern include VOCs, PCBs, metals, and petroleum hydrocarbons. No documented releases	No documented investigations or remedial actions found.	Further Action is recommended.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-20: Plant 23 Basement Area						
South end of Plant 23 basement.	No	Yes	Area was recently excavated below grade due to a sanitary sewer back-up. During the August 2000 Site walkover, liquid (condensate water from a pipe) was observed to be collecting in low-lying areas. Discolored basement walls with groundwater seepage were observed in this area.	Discolored water due to sanitary sewer breakage. No documented releases	No documented investigations or remedial actions found.	No Further Action is recommended.
AOI M-21: Plant 14 Transformer Station						
Outside on concrete pad between Plant 14 and Plant 56. Adjacent to Track 26.	No	Yes	Approximately 25 transformers on an elevated concrete pad with no secondary containment system. Evidence of oil stained concrete was observed during the August 2000 Site walkover.	Constituents of concern include PCBs and petroleum hydrocarbons. No documented releases.	No documented investigations or remedial actions found.	Further Action is recommended.
AOI M-22: Plant 15 Columbia Avenue Switch House						
West side of Plant 15 between the building and fence.	No	Yes	Access to the building was restricted during the August 2000 Site walkover. No visible staining was observed on the east side of the building. The west side of the building could not be observed.	Constituents of concern include PCBs and petroleum hydrocarbons. No documented releases.	No documented investigations or remedial actions found.	No Further Action is recommended.

TABLE 6-10
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - METAL FABRICATION DIVISION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI M-23: Plants 25, 33, and 75 Substation and Power Building						
Southwest of Plant 25 and north of Columbia Avenue.	No	Yes	Access to the substation area was restricted during the August 2000 Site walkover. No visible staining was observed from outside the area.	Constituents of concern include PCBs and petroleum hydrocarbons. Transformer oil that potentially contained PCBs was used at the substation and power building. No documented releases.	No documented investigations or remedial actions found.	Further Action is recommended.
AOI M-24: Plant 12 Transformer Oil Spill						
Outside of Plant 12. Exact location unknown.	No	No	A spill of PCB-containing transformer oil occurred on concrete surfaces near Plant 12 in May 1994. The exact location of the spill is unknown. No evidence of spills was observed around Plant 12 during the August 2000 Site walkover.	Documented transformer oil spill in May 1994. Constituents of concern include PCBs and petroleum hydrocarbons.	Remedial actions completed in May 1994 consisted of removal of soil and concrete potentially impacted by the transformer oil spill. No documentation of removal actions found.	Further Action is recommended.
AOI M-25: Plant 33 Basement Sump Area						
Basement of Plant 33.	No	Yes	One sump and several process pits are contained within this area. Historically, the sump pumped to the Plant 25 West sump. The pits were observed during the August 2000 Site walkover. They have recently been filled in with flowable material.	Constituents of concern include VOCs, PCBs, petroleum hydrocarbons, and metals. No documented releases.	Documentation does not exist on closure of pits prior to filling them in. Process pits have recently been filled with flowable fill.	Further Action is recommended.

TABLE 6-11
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

STORAGE TANK SUMMARY - METAL FABRICATION DIVISION (MFD)

AOI #	Building Association	Tank No.	Date Installed	Type	Size (feet)	Capacity (gallons)	Materials Stored	Status	Construction
M-1	WWTP	WT-1		AST	29 x 10	49,410	Unused	Existing	Unknown
		WT-2		AST	29 x 10	49,410	Unused	Existing	Unknown
		WT-3		AST	40 x 10	94,000	Unused	Existing	Unknown
		WT-4		AST	40 x 10	94,000	Unused	Existing	Unknown
		WT-5		AST	58 x 20	395,260	Unused	Existing	Unknown
		WT-6		AST	58 x 20	395,260	Unused	Existing	Unknown
		WT-7		AST	68 x 20	543,300	Weak Metallic	Existing	Unknown
		WT-8		AST	68 x 20	543,300	Weak Metallic	Existing	Unknown
		WT-9		AST	68 x 20	543,300	Oil Shipping	Existing	Unknown
		WT-10		AST	68 x 20	543,300	Alkali - Oily Influent	Existing	Unknown
		WT-12		AST	28 x 15	69,090	Interim Oil Transfer	Existing	Unknown
		WT-13		AST	28 x 15	69,090	Oily Rag	Existing	Unknown
		WT-14		AST	16 x 10	15,040	Sulfuric Acid Holding	Existing	Unknown
		WT-15		AST	42 x 15	155,450	Alkali - Oily Batch Treatment	Existing	Unknown
		WT-16		AST	42 x 15	155,450	Alkali - Oily Batch Treatment	Existing	Unknown
		WT-17		AST	35 x 9	64,770	Alkali - Oily Floc Holding	Existing	Unknown
		WT-18		AST	10 x 9	5,290	Sludge Dewatering Transfer	Existing	Unknown
		WT-19		AST	10 x 9	5,290	Sludge Holding	Existing	Unknown
		WT-19a		AST	10 x 9	5,290	Sludge Holding	Existing	Unknown
		WT-20		AST	5 x 6	1,880	Alkali - Oily Floc Transfer	Existing	Unknown
		WT-24		AST	22 x 12	34,120	Lime Slurry	Existing	Unknown
		WT-25		AST	25 x 15	55,080	Sludge Thickener	Existing	Unknown
		WT-26		AST	25 x 15	55,080	Sludge Thickener	Existing	Unknown
		WT-27		AST	28 x 15	69,090	Metallic Polishing	Existing	Unknown
		WT-28		AST	28 x 15	69,090	Metallic Polishing	Existing	Unknown
		WT-29		AST	28 x 15	69,090	Metallic Polishing	Existing	Unknown
		WT-30		AST	60 x 15	317,240	Final Clarifier	Existing	Unknown
		WT-31		AST	60 x 15	317,240	Final Clarifier	Existing	Unknown
		WT-32		AST	20 x 80		Sludge Consolidation Cell	Existing	Unknown
		WT-33		AST	20 x 80		Sludge Consolidation Cell	Existing	Unknown
		WT-34		AST	12.5 x 8.5	7,800	Desolved Air Floatation	Existing	Unknown
		WT-34a		AST	17 x 8.5	14,430	Desolved Air Floatation	Existing	Unknown

TABLE 6-11
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

STORAGE TANK SUMMARY - METAL FABRICATION DIVISION (MFD)

AOI #	Building Association	Tank No.	Date Installed	Type	Size (feet)	Capacity (gallons)	Materials Stored	Status	Construction
M-1	WWTP	WT-35		AST			Unused	Existing	Unknown
		WT-37		AST	6 x 5 x 9	2,020	Alkali - Oil Effluent Transfer	Existing	Unknown
		WT-38		AST	5 x 6	880	Unused	Existing	Unknown
		WT-40		AST	42 x 15	155,540	Alkali - Oily Influent	Existing	Unknown
		WT-41		AST	42 x 25	259,080	Alkali - Oily Influent	Existing	Unknown
		WT-42		AST	40 x 15	141,000	Sludge Thickener	Existing	Unknown
		WT-43		AST	70 x 15	435,180	Final Clarifier	Existing	Unknown
		WT-44		AST	12 x 14	11,840	Alkali - Oily Cooker	Existing	Unknown
		WT-45		AST	12 x 14	11,840	Alkali - Oily Cooker	Existing	Unknown
		WT-46		AST	12 x 14	11,840	Alkali - Oily Cooker	Existing	Unknown
		WT-47		AST	12 x 14	11,840	Alkali - Oily Cooker	Existing	Unknown
		WT-48		AST	12 x 14	11,840	Alkali - Oily Cooker	Existing	Unknown
		WT-49		AST	9.5 x 10.5	14,690	20% Caustic Holding	Existing	Unknown
		WT-50		AST	9.5 x 10.5	5,570	Alum Holding	Existing	Unknown
		WT-51		AST	9.5 x 10.5	5,570	Polymer Holding	Existing	Unknown
		WT-52		AST			Cooker Overflow Sump	Existing	Unknown
		WT-53		AST	6.5 x 15	14,890	Unused	Existing	Unknown
		WT-54		AST	9 x 5 x 6.5	2,190	Vacuum Filtrate Transfer	Existing	Unknown
		WT-55		AST	5 x 4 x 4	600	Soft Water Recirculation	Existing	Unknown
M-4	Plant 25 (formerly Plant 51)	51-7	unknown	UST		1,000	unleaded gasoline	Removed (3/85)	Unknown
				AST			unknown	Existing	Unknown
M-7	ELPO		unknown	AST	7.4 x 11	3,554	dirty purge thinner		Unknown
			unknown	AST	7.4 x 11	3,554	dirty purge thinner		Unknown
		E-1	unknown	AST		4,330	Alkali Cleaner	Existing	Unknown
		E-2	unknown	AST		2,330	Alkali Cleaner	Existing	Unknown
		E-3	unknown	AST		4,330	Water	Existing	Unknown
		E-4	unknown	AST		2,330	Water and Conditioner	Existing	Unknown
		E-5	unknown	AST		4,330	Phosphoric Acid	Existing	Unknown
		E-6	unknown	AST		2,330	Water	Existing	Unknown
		E-7	unknown	AST		2,330	Chromic Acid	Existing	Unknown
		E-8	unknown	AST		2,330	Water	Existing	Unknown
		E-9	unknown	AST		10,175	Phosphoric Acid	Existing	Unknown

TABLE 6-11
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

STORAGE TANK SUMMARY - METAL FABRICATION DIVISION (MFD)

AOI #	Building Association	Tank No.	Date Installed	Type	Size (feet)	Capacity (gallons)	Materials Stored	Status	Construction
M-7	ELPO	E-10	unknown	AST		13,000	Paint	Existing	Unknown
		E-11	unknown	AST		13,000	Paint	Existing	Unknown
		E-12	unknown	AST		13,000	Paint	Existing	Unknown
		E-13	unknown	AST		43,500	Paint Bath	Existing	Unknown
		E-14	unknown	AST		1,167	Water and Permeate	Existing	Unknown
		E-16	unknown	AST		2,225	Water	Existing	Unknown
		1				440	?	Existing	Unknown
		2				440	?	Existing	Unknown
		3				440	?	Existing	Unknown
		4				440	?	Existing	Unknown
		5				150	Paint Mix Tank	Existing	Unknown
		6				150	Paint Mix Tank	Existing	Unknown
		7				150	Paint Mix Tank	Existing	Unknown
		8				150	Paint Mix Tank	Existing	Unknown
		9				150	Paint Mix Tank	Existing	Unknown
		10				150	Paint Mix Tank	Existing	Unknown
		11				150	Paint Mix Tank	Existing	Unknown
		12				150	Paint Mix Tank	Existing	Unknown
		13				150	Paint Mix Tank	Existing	Unknown
		14				150	Paint Mix Tank	Existing	Unknown
		15				150	Paint Mix Tank	Existing	Unknown
		16				150	Paint Mix Tank	Existing	Unknown
		17				150	Paint Mix Tank	Existing	Unknown
		18				150	Paint Mix Tank	Existing	Unknown
		19				150	Paint Mix Tank	Existing	Unknown
		20				150	Paint Mix Tank	Existing	Unknown
		1		AST		3,000	Reclaimed Solvent	Existing	Unknown
		2		AST		3,000	Reclaimed Solvent	Existing	Unknown

TABLE 6-11
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

STORAGE TANK SUMMARY - METAL FABRICATION DIVISION (MFD)

AOI #	Building Association	Tank No.	Date Installed	Type	Size (feet)	Capacity (gallons)	Materials Stored	Status	Construction
M-8	Plant 25 (formerly Plant 51)	51-1		AST		15,000	Soluble Oil	Existing	Unknown
		51-2		AST		15,000	Hydraulic Oil	Existing	Unknown
		51-3		AST		15,000	Semi-Synthetic Grinding Oil	Existing	Unknown
		51-4		AST		15,000	Engine Oil (9985428)	Existing	Unknown
		51-5		AST		15,000	General Purpose Lubrication Oil	Existing	Unknown
		51-6		AST		20,000	EMPTY	Existing	Unknown
M-9	Plant 14 (formerly Plant 1)	1-1		AST		8,400	Quench Oil	Existing	Unknown
		1-2		AST		5,600	7-LC	Existing	Unknown
		1-3		AST		8,000	7-LC	Existing	Unknown
		1-6		AST		8,000	Quench Oil	Existing	Unknown
M-10	Plant 5	5-1		AST		12,500	593-KC Synthetic Coolant	Existing	Unknown
		5-2		AST		12,500	593-KC Synthetic Coolant	Existing	Unknown
		5-3		AST		12,500	593-KC Synthetic Coolant	Existing	Unknown
M-11	Plant 12	12-1		AST		480	Gasoline	Removed	Unknown
M-12	Plant 14 (formerly Plant 49)	49-1		AST		550	Fuel Oil	Existing	Unknown
									Unknown
M-13	Plant 14 (formerly Plant 49)								Unknown
									Unknown
M-14	Plant 12		1999	AST					Unknown
			1999	AST					Unknown
M-16							Sludge holding tank?		Unknown

TABLE 6-12
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI M-3

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Track 31 (AOI M-3) - Soil (OBG, 1997)								
Volatile Organics								
Acetone	4	1		100	15,000	42,000	23,000,000	110,000,000
Toluene	4	1		18	16,000	16,000	250,000	250,000
Xylenes	4	1		29	5,600	5,600	150,000	150,000
Semivolatile Organics								
Acenaphthene	4	1		3,300	300,000	880,000	41,000,000	200,000,000
Anthracene	4	1		8,900	41,000	41,000	230,000,000	1,000,000,000
Fluoranthene	4	1		6,400	730,000	730,000	46,000,000	180,000,000
Fluorene	4	2	260	43,000	390,000	890,000	27,000,000	130,000,000
2-Methylnaphthalene	4	1		2,200	57,000	170,000	8,100,000	40,000,000
Phenanthrene	4	2	450	43,000	56,000	160,000	1,600,000	8,000,000
Pyrene	4	1		10,000	480,000	480,000	29,000,000	110,000,000
PCBs (Post-Excavation)								
PCB-1242	34	8	2,000	19,000	NLL	NLL	4,000	20,000
PCB-1260	34	4	330	7,200	NLL	NLL	4,000	20,000
Total PCBs	34	12	330	19,000	NLL	NLL	4,000	20,000
Metals								
Aluminum	4	4	1,300,000	4,900,000	6,900,000*	6,900,000*	50,000,000	660,000,000
Arsenic	4	4	1,800	5,000	23,000	23,000	7,600	61,000
Barium	4	4	6,000	19,000	1,600,000	1,300,000	37,000,000	250,000,000
Calcium	4	4	1,300,000	85,000,000	Not Regulated			
Chromium	4	4	4,000	9,000	30,000	30,000	790,000,000	1,000,000,000
Copper	4	4	5,000	13,000	5,800,000	5,800,000	20,000,000	140,000,000
Iron	4	4	3,600,000	12,000,000	12,000,000*	12,000,000*	160,000,000	1,000,000,000
Lead	4	4	2,000	6,000	700,000	700,000	400,000	900,000

See Notes, Page 2.

TABLE 6-12
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI M-3

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Track 31 (AOI M-3) - Soil (OBG, 1997)								
Metals, cont.								
Magnesium	4	4	1,100,000	19,000,000	8,000,000	22,000,000	1,000,000,000	1,000,000,000
Manganese	4	4	140,000	280,000	440,000*	440,000*	25,000,000	170,000,000
Nickel	4	2	10,000	12,000	100,000	100,000	40,000,000	270,000,000
Potassium	4	1		900,000	Not Regulated			
Sodium	4	3	100,000	200,000	2,500,000	7,000,000	1,000,000,000	1,000,000,000
Vanadium	4	3	7,000	16,000	72,000	990,000	750,000	10,000,000
Zinc	4	4	12,000	38,000	2,400,000	5,000,000	170,000,000	1,000,000,000

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

[1] MDEQ generic drinking water criteria are presented for groundwater (June 2000 criteria revision).
MDEQ generic drinking water protection criteria are presented for soils (June 2000 criteria revision).

[2] MDEQ generic groundwater contact criteria are presented for groundwater (June 2000 criteria revision).
MDEQ generic direct contact criteria are presented for soils (June 2000 criteria revision).

Shading indicates that at least one sample exceeded the criteria.

TABLE 6-13
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI M-4

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Plant 25/51 Gasoline UST & AST Location - Groundwater 1985 (MPC 1987)								
Volatile Organics								
Acrylonitrile	10	1		40,000	2.6	11	1,700	
1,2-Dichloroethane	10	4	7.0	890	5.0	5.0	19,000	
Benzene	10	4	23	1,200	5.0	5.0	11,000	
Ethylbenzene	10	3	7.0	3,800	74	74	170,000	
Toluene	10	5	1.0	45,000	790	790	530,000	
Xylenes	9	3	33	250	280	280	190,000	
Plant 25/51 Gasoline UST & AST Location - Groundwater 1986 (MPC 1987)								
Volatile Organics								
1,2-Dichloroethane	18	11	1.0	30	5.0	5.0	19,000	
Benzene	18	9	1.0	1,600	5.0	5.0	11,000	
Toluene	18	3	2.0	12	790	790	530,000	
Xylenes	18	1		4.0	280	280	190,000	
Plant 25/51 Gasoline UST & AST Location - Groundwater 1987 (MPC 1987)								
Volatile Organics								
1,2-Dichloroethane	6	4	2.0	4.0	5.0	5.0	19,000	
Benzene	6	2	22	36	5.0	5.0	11,000	
Ethylbenzene	6	1		2.0	74	74	170,000	
Plant 25/51 Gasoline UST & AST Location - Groundwater 1991 (MPC 1987)								
Volatile Organics								
Benzene	24	8	2.0	200	5.0	5.0	11,000	
Ethylbenzene	24	3	1.0	10	74	74	170,000	

TABLE 6-14
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI M-5

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Former Fill Area A-2 - Soil (CRA, 2000c)								
Volatile Organics (ug/kg)								
Ethylbenzene	10	1		66 J	1,500	1,500	140,000	140,000
m,p-Xylenes	10	1		110 J	5,600	5,600	150,000	150,000
o-Xylene	10	1		79 J	5,600	5,600	150,000	150,000
Semivolatile Organics (ug/kg)								
Acenaphthene	10	3	70 J	600	300,000	880,000	41,000,000	200,000,000
Acenaphthylene	10	1		300 J	5,900	1,700	1,600,000	8,000,000
Anthracene	10	4	90 J	1,400	41,000	41,000	230,000,000	1,000,000,000
Benzo(a)anthracene	10	3	200 J	3,600	NLL	NLL	20,000	100,000
Benzo(a)pyrene	10	3	100 J	2,800	NLL	NLL	2,000	10,000
Benzo(b)fluoranthene	10	3	200 J	3,000	NLL	NLL	20,000	100,000
Benzo(g,h,i)perylene	10	3	90 J	900	NLL	NLL	2,500,000	9,100,000
Benzo(k)fluoranthene	10	3	200 J	2,200	NLL	NLL	200,000	1,000,000
Bis(2-ethylhexyl)phthalate	10	8	100 J	500	NLL	NLL	2,800,000	10,000,000
Butyl benzyl phthalate	10	4	100 J	400	310,000	310,000	310,000	310,000
Carbazole	10	1		700	9,400	39,000	530,000	3,700,000
Chrysene	10	3	300 J	3,300	NLL	NLL	2,000,000	10,000,000
Dibenz(a,h)anthracene	10	2	40 J	400	NLL	NLL	2,000	10,000
Dibenzofuran	10	1		500	ID	ID	ID	ID
Fluoranthene	10	4	80 J	5,800	730,000	730,000	46,000,000	180,000,000
Fluorene	10	4	200 J	1,200	390,000	890,000	27,000,000	130,000,000
Indeno(1,2,3-cd)pyrene	10	3	90 J	1,200	NLL	NLL	20,000	100,000
2-Methylnaphthalene	10	3	100 J	800	57,000	170,000	8,100,000	40,000,000
Naphthalene	10	3	100 J	700	35,000	100,000	16,000,000	80,000,000
Phenanthrene	10	4	600	5,400	56,000	160,000	1,600,000	8,000,000
Pyrene	10	4	100 J	5,600	480,000	480,000	29,000,000	110,000,000
PCBs (ug/kg)								
Aroclor 1248	10	8	50 J	3,900	NLL	NLL	4,000	20,000

See Notes, Page 4.

TABLE 6-14
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI M-5

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Former Fill Area A-2 - Soil (CRA, 2000c)								
Pesticides (ug/kg)								
4,4'-DDE	10	7	1.0 J	67	NLL	NLL	45,000	260,000
4,4'-DDD	10	1		3.0 J	NLL	NLL	95,000	540,000
Endrin Aldehyde	10	1		36	NLL	NLL	65,000	260,000
4,4'-DDT	10	1		2.0 J	NLL	NLL	57,000	460,000
Metals (ug/kg)								
Aluminum	10	10	3,050,000	10,400,000	6,900,000*	6,900,000*	50,000,000	660,000,000
Antimony	10	10	50	1,790	500	4,300	180,000	1,200,000
Arsenic	10	10	1,100	9,400	23,000	23,000	7,600	61,000
Barium	10	10	12,900	111,000	1,600,000	1,300,000	37,000,000	250,000,000
Beryllium	10	10	150	640	51,000	51,000	410,000	3,100,000
Cadmium	10	10	60	2,650	6,000	6,000	550,000	4,100,000
Calcium	10	10	1,820,000	75,800,000	Not Regulated			
Chromium	10	10	6,560	152,000	30,000	30,000	790,000,000	1,000,000,000
Cobalt	10	10	1,960	9,380	800	2,000	2,600,000	18,000,000
Copper	10	10	4,430	693,000	5,800,000	5,800,000	20,000,000	140,000,000
Iron	10	10	5,010,000	51,700,000	12,000,000*	12,000,000*	160,000,000	1,000,000,000
Lead	10	10	2,940	73,100	700,000	700,000	400,000	900,000
Magnesium	10	10	2,350,000	18,800,000	8,000,000	22,000,000	1,000,000,000	1,000,000,000
Manganese	10	10	77,300 J	768,000 J	440,000*	440,000*	25,000,000	170,000,000
Mercury	10	8	10 J	80	1,700	1,700	160,000	1,100,000
Nickel	10	10	5,200	168,000	100,000	100,000	40,000,000	270,000,000
Potassium	10	10	217,000 J	975,000	Not Regulated			
Selenium	10	2	600 J	700 J	4,000	4,000	2,600,000	18,000,000
Silver	10	10	20	319	4,500	13,000	2,500,000	17,000,000
Sodium	10	10	50,700	2,370,000	2,500,000	7,000,000	1,000,000,000	1,000,000,000
Thallium	10	10	40	300	2,300	2,300	35,000	240,000
Vanadium	10	10	8,120	27,800	72,000	990,000	750,000	10,000,000
Zinc	10	10	13,300	212,000	2,400,000	5,000,000	170,000,000	1,000,000,000
Cyanide, Total	10	6	100 J	2,800	4,000	4,000	12,000	250,000

See Notes, Page 4.

TABLE 6-14
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI M-5

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Former Fill Area A-2 - Groundwater (CRA, 2000c)								
Volatile Organics (ug/L)								
Acetone	3	2	17 J	18 J	730	2,100	31,000,000	
2-Butanone	3	2	6.5 J	6.6 J	13,000	38,000	240,000,000	
o-Xylene	3	1		0.20 J	280	280	190,000	
Total Xylenes	3	1		0.20 J	280	280	190,000	
Semivolatile Organics (ug/L)								
Phenol	3	3	0.50 J	0.70 J	4,400	13,000	29,000,000	
Dimethyl Phthalate	3	2	0.60 J	0.70 J	73,000	210,000	4,200,000	
Bis(2-ethylhexyl)phthalate	3	2	510	510	6.0	6.0	320	
Pesticides (ug/L)								
Endrin Ketone	3	2	0.01 J	0.01 J	2.0	2.0	160	
Metals (ug/L)								
Aluminum	3	3	38.1 J	95.4 J	50	50	64,000,000	
Antimony	3	3	1.02 J	1.56 J	6.0	6.0	68,000	
Arsenic	3	1		2.4 J	50	50	4,300	
Barium	3	3	1,010	3,690	2,000	2,000	14,000,000	
Cadmium	3	3	0.93	4.04	5.0	5.0	190,000	
Calcium	3	3	352,000	584,000	Not Regulated			
Cobalt	3	3	4.57 J	7.57 J	40	100	2,400,000	
Copper	3	1		5.74 J	1,000	1,000	7,400,000	
Cyanide, Total	3	3	6.0 J	30	200	200	57,000	
Iron	3	3	1,470	10,800	300	300	58,000,000	
Lead	3	3	0.23 J	0.54 J	0.20	0.20	ID	
Magnesium	3	3	61,300	70,800	400,000	1,100,000	1,000,000,000	
Manganese	3	3	629	1,180	50	50	9,100,000	
Potassium	3	3	7,610	33,400	Not Regulated			
Silver	3	3	0.217 J	0.630	34	98	1,500,000	
Sodium	3	3	3,140,000	8,730,000	120,000	350,000	1,000,000,000	
Vanadium	3	1		9.25 J	4.5	62	970,000	
Zinc	3	3	2.52 J	9.91 J	2,400	5,000	110,000,000	

See Notes, Page 4.

TABLE 6-14
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI M-5

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

[1] MDEQ generic drinking water criteria are presented for groundwater (June 2000 criteria revision).
MDEQ generic drinking water protection criteria are presented for soils (June 2000 criteria revision).

[2] MDEQ generic groundwater contact criteria are presented for groundwater (June 2000 criteria revision).
MDEQ generic direct contact criteria are presented for soils (June 2000 criteria revision).

Shading indicates that at least one sample exceeded the criteria.

TABLE 6-15
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - M-15

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Track 26 - Soil (CRA, 1998a)								
Volatile Organics (ug/kg)								
Methylene chloride	3	1		62	100	100	1,300,000	2,300,000
Semivolatile Organics (ug/kg)								
Benzo(a)anthracene	3	1		480	NLL	NLL	20,000	100,000
Benzo(a)pyrene	3	1		560	NLL	NLL	2,000	10,000
Benzo(b)fluoranthene	3	2	450	900	NLL	NLL	20,000	100,000
Benzo(g,h,i)perylene	3	1		360	NLL	NLL	2,500,000	9,100,000
Butyl benzyl phthalate	3	1		460	310,000	310,000	310,000	310,000
Chrysene	3	2	350	620	NLL	NLL	2,000,000	10,000,000
Fluoranthene	3	2	430	760	730,000	730,000	46,000,000	180,000,000
2-Methylnaphthalene	3	2	350	430	57,000	170,000	8,100,000	40,000,000
Phenanthrene	3	1		380	56,000	160,000	1,600,000	8,000,000
Pyrene	3	2	450	970	480,000	480,000	29,000,000	110,000,000
PCBs (ug/kg)								
Aroclor 1260	24	4	450	9,100	NLL	NLL	4,000	20,000
Metals (ug/kg)								
Aluminum	3	3	2,200,000	20,000,000	1,000	1,000	50,000,000	660,000,000
Antimony	3	2	910	1,300	500	500	180,000	1,200,000
Arsenic	3	3	1,900	17,000	23,000	23,000	7,600	61,000
Barium	3	3	15,000	340,000	1,600,000	1,300,000	37,000,000	250,000,000
Beryllium	3	2	690	2,600	51,000	51,000	410,000	3,100,000
Cadmium	3	3	100	1,500	6,000	6,000	550,000	4,100,000
Calcium	3	3	1,500,000	100,000,000	Not Regulated			
Chromium	3	3	4,400	18,000	30,000	30,000	790,000,000	1,000,000,000
Cobalt	3	3	1,800	3,300	800	2,000	2,600,000	18,000,000
Copper	3	3	9,600	65,000	5,800,000	5,800,000	20,000,000	140,000,000

See Notes, Page 2.

TABLE 6-15
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - M-15

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Track 26 - Soil (CRA, 1998a)								
Metals (ug/kg)								
Iron	3	3	5,000,000	20,000,000	6,000	6,000	160,000,000	1,000,000,000
Lead	3	3	5,200	140,000	700,000	700,000	400,000	900,000
Magnesium	3	3	750,000	40,000,000	8,000,000	22,000,000	1,000,000,000	1,000,000,000
Manganese	3	3	130,000	1,100,000	1,000	1,000	25,000,000	170,000,000
Mercury	3	1		1,700	1,700	1,700	160,000	1,100,000
Nickel	3	3	7,200	37,000	100,000	100,000	40,000,000	270,000,000
Potassium	3	3	210,000	1,100,000	Not Regulated			
Sodium	3	3	35,000	480,000	2,500,000	7,000,000	1,000,000,000	1,000,000,000
Vanadium	3	3	7,300	22,000	72,000	990,000	750,000	10,000,000
Zinc	3	3	29,000	61,000	2,400,000	5,000,000	170,000,000	1,000,000,000

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

[1] MDEQ generic drinking water criteria are presented for groundwater (June 2000 criteria revision).
MDEQ generic drinking water protection criteria are presented for soils (June 2000 criteria revision).

[2] MDEQ generic groundwater contact criteria are presented for groundwater (June 2000 criteria revision).
MDEQ generic direct contact criteria are presented for soils (June 2000 criteria revision).

Shading indicates that at least one sample exceeded the criteria.

TABLE 6-16
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - POWERTRAIN

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI P-1: Former Powertrain UST Farm						
Adjacent to south wall of the Engine Testing Laboratory.	Yes	No	Seven former USTs that contained various grades of gasoline, indoline, and diesel fuel. The tanks were installed in 1952 and removed in 1990. No evidence of the former UST Farm was observed during the August 2000 Site walkover. The area is currently paved with concrete.	BTEX and lead.	Investigations and actions involve both old (AOI P-1) and new (AOI P-2) tank farm sites (inter-related). A groundwater monitoring system was installed in 1984. A release was reported to the State Fire Marshall in April 1990. The tanks were removed in 1990. Approximately 1,200 cubic yards of soil were also removed at that time. A supplemental soil investigation was completed in January 1991 to determine if the surrounding soils had been impacted by the USTs. Additional soil and groundwater activities were completed in 1993. MDNR granted closure of this area in September 1994.	No Further Action is recommended.

TABLE 6-16
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - POWERTRAIN

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI P-2: Existing Powertrain UST Farm						
Southwest end of Powertrain Headquarters Building.	Yes	Yes	Six double-steel USTs used to store gasoline. The tanks were installed in 1990. Tanks were installed near the location of the dispensing pump from the former Powertrain UST Farm. The UST Farm and gasoline dispensing operation were observed during the August 2000 Site walkthrough. The dispensing area and area around the tank farm were paved with concrete which was in good condition.	Dispensing pump from former UST Farm contaminated soil at the location of the current tank farm. Constituents of concern include BTEX and lead.	A release was reported in 1989. Excavation of contaminated soils performed in conjunction with excavation for placement of current USTs in August 1990. Additional contamination was found beyond the immediate excavation area in 1991. A closure report was submitted to the MDNR in August 1994. MDNR granted closure (in regard to BTEX and lead) in September 1994. During a subsurface investigation in the vicinity of the UST farm, a low concentration of naphthalene was detected in groundwater. As a result, a suspected release report was submitted to MDEQ in June 2000. GM requested that MDEQ cancel the suspected release report after reanalysis of the groundwater sample indicated that naphthalene was non-detect.	No Further Action is recommended.

TABLE 6-16
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - POWERTRAIN

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
P-3: Car Wash						
West and north end of the Powertrain Headquarters Building.	Yes	No	Two 20,000-gallon USTs used to store gasoline. The tanks were installed in 1972 and removed in December 1990. One of the tanks may have contained diesel fuel at one time. One 20,000-gallon steel UST used to store gasoline. This tank was installed in 1991 and removed in December 1999. There are confirmed historical spill reports of both diesel and gasoline fuels. No evidence of the former car wash tank farm was observed during the August 2000 Site walkthrough. The area around the former car wash was paved with concrete and/or fenced off.	BTEX, PNAs, MTBE, and lead.	The tanks were removed in 1990. An unknown quantity of impacted soils were also removed and disposed of off site. BTEX and lead were still present in soils after the excavation. Additional soil sampling was conducted in May 1991 to determine the horizontal and vertical extent of contamination. A restrictive covenant agreement between GM and MDNR was executed in 1995. A draft LUST Closure Report has been prepared that will supercede the 1995 closure with the restrictive covenant. No contamination was detected during the tank removal in December 1999. A closure report was submitted to MDEQ in January 2000. GM received residential closure for the third tank in February 2000.	No Further Action is recommended.

TABLE 6-16
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - POWERTRAIN

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI P-4: Powertrain Former Used Oil UST and Utility Line						
West side of Powertrain Headquarters Building.	Yes	No	Tank and utility line were discovered during Site renovation activities. The tank was removed in November 1996. Tank is believed to have stored used oil for the dynanometer laboratories. No signs of the former UST or utility line were observed during the August 2000 Site walkthrough. The entire area is currently paved with concrete.	VOCs, PNAs, PCBs, and metals.	A release was reported in October 1996 when the tank was discovered. The tank was removed in November 1996. Eighty cubic yards of contaminated soil were also removed. A closure report for the UST was submitted to MDEQ in November 1996. An investigation of the utility line was conducted in December 1996. No contamination associated with the utility line was found.	No Further Action is recommended.
AOI P-5: Powertrain Former Stoddard Solvent UST						
Northwest side of Powertrain Headquarters Building.	Yes	No	Former 550-gallon UST containing Stoddard solvent. No evidence of the previous UST was observed during the August 2000 Site walkthrough. The entire area is currently paved with concrete.	VOCs	A release was reported to MDNR on August 21, 1995. Tanks and contaminated soil were removed in August 1995. Remaining surrounding soils were analyzed for VOCs; however, no residual contamination was found. A closure report was submitted to MDEQ in September 1995. MDEQ acknowledged receipt of the closure report in October 1995. The MDEQ did not audit the closure report; therefore, closure is implied.	No Further Action is recommended.

TABLE 6-16
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - POWERTRAIN

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI P-6: Emissions Control Building Former UST Farm and Stoddard Solvent AST						
West of the northwest corner of the Emissions Control Building.	Yes	No	Seven USTs used for the storage of gasoline, indolene, GM calibrating solvent, and water. No evidence of the former UST Farm was observed during the August 2000 Site walkthrough. The area is currently a concrete-paved parking lot. 950-gallon AST used for the storage of waste Stoddard solvent. The tank was removed in November 1986.	BTEX, solvents, lead. No documentation of tank closure available.	The tanks were hydrostatically tested in 1984. Two tanks failed the test. Results were submitted to MDNR. In June 1984, a release from the UST Farm was detected. Investigation indicated that the leaked material was either gasoline or a mixture of gasoline and waste solvent mixture. The Stoddard solvent AST was incorrectly placed in the RCRA closure plan. After review, MDEQ acknowledged that formal closure was not necessary in August 1986 because the storage was less than 90 days.	Further Action is recommended.
P-7: Former Plant 18 Coolant AST						
Plant 18 basement.	No	No	The AST stored 38 LB coolant. Secondary containment present. No documented releases. No evidence of the former AST location was observed during the August 2000 Site walk. Gravel, dirt, rock, and grass are currently present at this location.	No documentation of tank closure available.	No documented investigations or remedial actions found.	No Further Action is recommended.

TABLE 6-17
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

STORAGE TANK SUMMARY - POWERTRAIN

AOI #	Building Association	Tank No.	Date Installed	Type	Size (feet)	Capacity (gallons)	Materials Stored	Status	Construction
P-1	Powertrain Headquarters	PE-A	1952	UST		10,000	91 Amoco Unleaded Gasoline	Removed (1990).	
		PE-B	1952	UST		10,000	Indolene Clear Gasoline	Removed (1990).	
		PE-C	1952	UST		5,000	91 Amoco Unleaded Gasoline	Removed (1990).	
		PE-D	1952	UST		5,000	Diesel Fuel	Removed (1990).	
		PE-E	1952	UST		1,700	Indolene 30 Leaded Gasoline	Removed (1990).	
		PE-F	1952	UST		1,700	Winter Grade Gasoline	Removed (1990).	
		PE-G	1952	UST		1,700	Gulf Borderline Fuel	Removed (1990).	
P-2	Powertrain Headquarters	NL-1	2/6/91	UST		12,000	Gasoline		
							B/L Reference (4,000 gallons)		
							GT-104 (4,000 gallons)		
							GT-104 (4,000 gallons)		
		NL-2	2/6/91	UST		12,000	Gasoline		
							Certified (4,000 gallons)		
							15 RVP (4,000 gallons)		
							7 RVP (4,000 gallons)		
		NL-3	2/6/91	UST		15,000	Sunoco CFR 40		
		NL-4	2/6/91	UST		15,000	Amoco 91		
		NL-5	2/6/91	UST		15,000	Amoco Ultimate		
		NL-6	2/6/91	UST		2,000	Salvage Fuel		
P-3	Car Wash	CW-1	1972	UST		20,000	gasoline (may have contained diesel)	Removed (12/90).	
		CW-2	1972	UST		20,000	gasoline (may have contained diesel)	Removed (12/90).	
		CW-3	11/2/90	UST		20,000	gasoline	Removed (12/99)	
P-4	Powertrain Headquarters	unknown	unknown	UST		unknown	used oil (based on area operations)	Removed (10/30/96)	
P-5	Powertrain Headquarters	unknown	unknown	UST		unknown	stoddard solvent (based on area operations)	Removed (8/25/95)	

TABLE 6-17
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

STORAGE TANK SUMMARY - POWERTRAIN

AOI #	Building Association	Tank No.	Date Installed	Type	Size (feet)	Capacity (gallons)	Materials Stored	Status	Construction
P-6	Emissions Control Building	EM-1	1970s	UST		4,000	Unleaded Gasoline	Removed (7/87)	
		EM-2	1970s	UST		8,000	Unleaded Gasoline	Removed (7/87)	
		EM-3	1970s	UST		8,000	Indolene I Clear Gas	Removed (7/87)	
		EM-4	1970s	UST		8,000	Water	Removed (7/87)	
		EM-5	1970s	UST		8,000	Unleaded Gasoline	Removed (7/87)	
		EM-6	1970s	UST		4,000	Water	Removed (7/87)	
		EM-7	1970s	UST		2,000	GM Calibrating Solvent	Removed (7/87)	
P-7	Plant 18			AST			38LB Coolant	Removed.	
P-8	Vacant Lot	unknown	unknown	UST		unknown	unknown	unknown	

TABLE 6-18
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI P-1

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact Criteria[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Former Underground Storage Tank Farm - Groundwater (TEC, 1990)								
Benzene	9	3	510	1,345	5.0	5.0	11,000	
Toluene	9	3	172	965	790	790	530,000	
Ethylbenzene	9	3	7.5	73	74	74	170,000	
m,p-Xylene	9	2	154	468	280	280	190,000	
o-Xylene	9	2	120	288	280	280	190,000	
Total Xylenes	9	2	374	756	280	280	190,000	
Former Underground Storage Tank Farm - Soil (TEC, 1990)								
Benzene	34	2	8.4	36.3	100	100	1,000	400,000
Toluene	34	2	8.9	16.1	16,000	16,000	250,000	250,000
Ethylbenzene	34	2	10.3	63.4	5,600	5,600	150,000	150,000
m,p-Xylene	34	1		34.3	4,000	4,000	460,000	460,000
o-Xylene	34	2	15.6	92.5	100	100	1,300,000	2,300,000
Total Xylenes	34	2	49.9	92.5	260,000	760,000	27,000,000	27,000,000
Former Underground Storage Tank Farm - Groundwater (TEC, 1993)								
Lead	3	1		5.0	4	4	ID	

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

[1] MDEQ generic drinking water criteria are presented for groundwater.
MDEQ generic drinking water protection criteria are presented for soils.

[2] MDEQ generic groundwater contact criteria are presented for groundwater.
MDEQ generic direct contact criteria are presented for soils.

Shading indicates that at least one sample exceeded the criteria.

TABLE 6-19
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI P-2

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact Criteria[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Existing Underground Storage Tank Farm - Soil (TEC 1989)								
Other								
Total Petroleum Hydrocarbons	10	9	26,000	759,000	Not Regulated			

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

[1] MDEQ generic drinking water criteria are presented for groundwater.
MDEQ generic drinking water protection criteria are presented for soils.

[2] MDEQ generic groundwater contact criteria are presented for groundwater.
MDEQ generic direct contact criteria are presented for soils.

Shading indicates that at least one sample exceeded the criteria.

TABLE 6-20
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI P-3

Constituent	Number of		Concentration (ppb)	
	Samples	Detects	Minimum	Maximum
Car Wash - Soil (GM, 1991)				
Volatile Organics				
Benzene	7	2	245	5,900
Toluene	7	2	15.0	1,800
Ethylbenzene	7	1		38
Inorganics				
Total Lead	7	7	3,900	10,000
Car Wash - Soil (TEC, 1991)				
Volatile Organics				
Benzene	8	2	22	1,938
Toluene	8	3	6.0	1,461
Ethylbenzene	8	2	1,882	2,500
Total Xylenes	8	2	2,165	14,294
Car Wash - Soil (TEC, 1994)				
Volatile Organics				
Toluene	12	1		1,800
Ethylbenzene	12	2	6,000	8,400
Total Xylenes	12	2	15,400	26,700
Inorganics				
Total Lead	12	12	2,900	9,500
Car Wash - Soil (Atwell Hicks, 1995)				
Volatile Organics				
Ethylbenzene	4	1		884
Total Xylenes	4	1		3,004
Car Wash - Groundwater (10/1995 - 4/1999) (Superior, 2000)				
Volatile Organics				
Total Xylenes	27	1		1.4

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

TABLE 6-21
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI P-4

Constituent	Number of		Concentration (ppb)	
	Samples	Detects	Minimum	Maximum
Former Used Oil UST & Utility Line - Soil (RemTech 1996a)				
Volatile Organics (ug/kg)				
Benzene	6	1		10
1,1-Dichloroethane	6	2	12	88
Toluene	6	1		17
Semivolatile Organics (ug/kg)				
Fluoranthene	6	1		530
Inorganics (ug/kg)				
Cadmium	6	6	3,800	5,400
Chromium (III)	6	6	8,300	23,900
Total Lead	6	6	6,400	14,700

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

TABLE 6-22
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - P-5

Constituent	Number of		Concentration (ppb)	
	Samples	Detects	Minimum	Maximum
Former Stoddard Solvent UST - Soil (Atwell-Hicks, Inc., 1995)				
Volatile Organics (ug/kg)				
Ethylbenzene	6	2	15	124
Total Xylenes	6	1		89

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

TABLE 6-23
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI P-8

Constituent	Number of		Concentration (ppb)	
	Samples	Detects	Minimum	Maximum
Vacant Lot across Joslyn - Groundwater (CRA, 1998b)				
Volatile Organics (ug/L)				
Benzene	15	2	190	2,500
Toluene	15	2	110	330
Ethylbenzene	15	8	1.1	1,900
Total Xylenes	15	7	50	8,600
Semivolatile Organics (ug/L)				
Naphthalene	3	1		120
Metals				
Cadmium	3	1		1.5

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

TABLE 6-24
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - SERVICE PARTS OPERATION

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI S-1: Former SPO Gasoline UST Location						
South side of Plant 75, adjacent to Columbia Avenue.	Yes	No	10,000-gallon steel UST used for the storage of gasoline. The tank was installed in 1996 and removed in 1990. No evidence of the former UST location was observed during the August 2000 Site walkthrough.	BTEX, lead, and petroleum hydrocarbons.	Soils analyzed for BTEX compounds in August 1990. Xylenes were detected. Groundwater analyzed for BTEX compounds and lead. Low levels of lead detected above generic MDEQ Part 201 groundwater criteria. Tank and associated piping removed in August 1990. Forty cubic yards of impacted soil also removed and disposed as non-hazardous waste off-site. The UST removal report was submitted to MDNR in 1991.	No Further Action is recommended.
AOI S-2: Former SPO Diesel UST Location						
East site of Plant 75, adjacent to Joslyn Avenue.	Yes	No	4,000-gallon fiberglass UST used for the storage of diesel fuel. The tank was removed in 1992. No evidence of the former UST locations was observed during the August 2000 Site walkthrough.	Reported release of diesel fuel from tank.	The tank was removed in 1992. Thirty cubic yards of impacted soil were also removed and disposed as non-hazardous waste off-site. Soil and groundwater were analyzed for BTEX and PAH compounds. Only one detection of benzo(a)anthracene was present in groundwater slightly above generic MDEQ Part 201 criteria. The UST removal report was submitted to the MDEQ in 1992.	No Further Action is recommended.

TABLE 6-25
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

STORAGE TANK SUMMARY - SERVICE PARTS OPERATION (SPO)

AOI #	Building Association	Tank No.	Date Installed	Type	Size (feet)	Capacity (gallons)	Materials Stored	Status	Construction
S-1	Plant 75		1966	UST		10,000	Gasoline	Removed (8/21/90).	
S-2	Plant 75		Unknown	UST		4,000	Diesel	Removed (1/28/92).	Fiberglass

TABLE 6-26
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI S-1

Constituent	Number of		Concentration (ppb)		Drinking Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Former SPO Gasoline UST Location - Soil (OBG, 1991a)								
Volatile Organics (ug/kg)								
Xylenes	2	2	50	95	5,600	5,600	150,000	150,000
Former SPO Gasoline UST Location - Soil (OBG, 1991b)								
Volatile Organics (ug/kg)								
Ethylbenzene	14	2	12	16	1,500	1,500	140,000	140,000
Xylenes	14	8	28	670	5,600	5,600	150,000	150,000
Metals (ug/kg)								
Lead	14	14	3,600	18,000	700,000	700,000	400,000	900,000
Former SPO Gasoline UST Location - Groundwater (OBG, 1991b)								
Metals (ug/L)								
Lead	10	10	6.0	17	4.0	4.0	ID	

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

[1] MDEQ generic drinking water criteria are presented for groundwater.
MDEQ generic drinking water protection criteria are presented for soils.

[2] MDEQ generic groundwater contact criteria are presented for groundwater.
MDEQ generic direct contact criteria are presented for soils.

Shading indicates that at least one sample exceeded the criteria.

TABLE 6-27
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

HISTORICAL DATA SUMMARY - AOI S-2

Constituent	Number of		Concentration (ppb)		Drining Water Criteria[1]		Direct Contact[2]	
	Samples	Detects	Minimum	Maximum	Residential	Industrial	Residential	Industrial
Former SPO Diesel UST Location - Groundwater (OBG, 1992)								
Volatile Organics (ug/L)								
Total Xylenes	1	1		7.0	280	280	190,000	
PNAs (ug/L)								
Acenaphthene	1	1		43.9	1,300	3,800	4,200	
Benzo(a)anthracene	1	1		5.0	2.1	8.5	9.4	
Fluoranthene	1	1		26.1	210	210	210	
Phenanthrene	1	1		7.5	52	150	1,000	
Pyrene	1	1		30.6	140	140	140	

Notes:

Units are ppb (ug/Kg for soil; ug/L for groundwater), unless otherwise noted.

Only constituents with at least one detection are shown on the table.

[1] MDEQ generic drinking water criteria are presented for groundwater (June 2000 criteria revision).
MDEQ generic drinking water protection criteria are presented for soils (June 2000 criteria revision).

[2] MDEQ generic groundwater contact criteria are presented for groundwater (June 2000 criteria revision).
MDEQ generic direct contact criteria are presented for soils (June 2000 criteria revision).

Shading indicates that at least one sample exceeded the criteria.

TABLE 6-28
GENERAL MOTORS CORPORATION
PONTIAC, MICHIGAN

CURRENT CONDITIONS REPORT - PONTIAC NORTH CAMPUS

AREAS OF INTEREST - SITE STORM SEWER SYSTEM

Location	Previously Identified	Active	Description of Areas	Description of Concerns	Previous Investigations/Actions	Future Actions and/or Interim Measures
AOI ST-1: Storm Sewer Outfall 001						
Montcalm Storm; runs from center of Engine Plant 9 south, west of the old foundry, across Montcalm Ave. to Storm Water Retention Pond.	Yes	Yes	Sitewide storm sewer system.	Multiple documented spills with releases to sewer: PCBs, cyanide, metals, hydrocarbons, and solvents from nearly all plant locations.	Storm sewer cleaning program initiated February 5, 2000 and completed September 2, 2000. Resulted in removal of approximately 200 cubic yards of material. Cleaning activities of the stormwater pond, conducted September 26 - October 1, 2000, resulted in the removal of approximately 300 cubic yards of sediment.	Further action is recommended.

13 soil
16 surface soil

26 soil
5 surface
- 6.3h soil

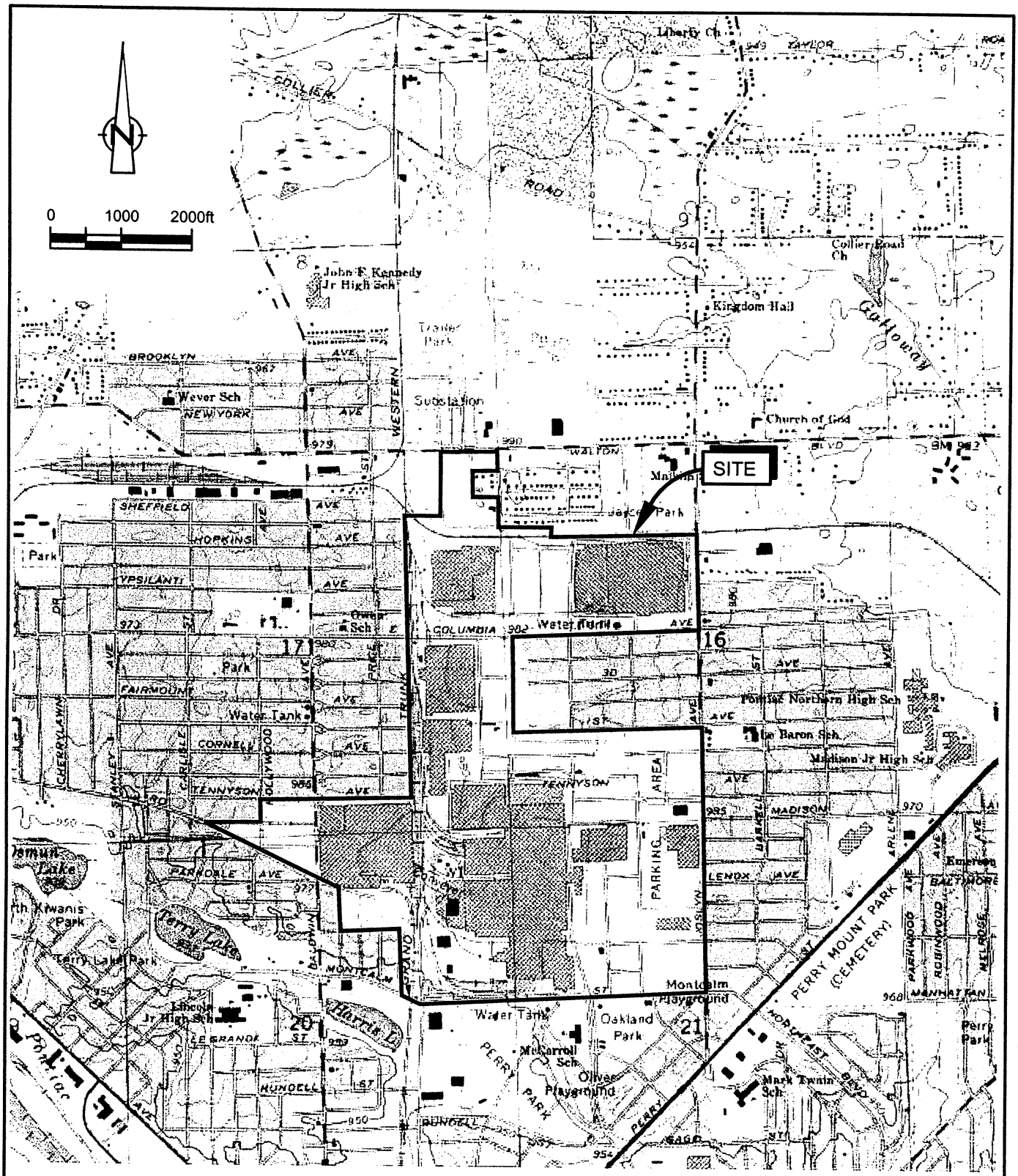


figure 1-1

SITE LOCATION
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

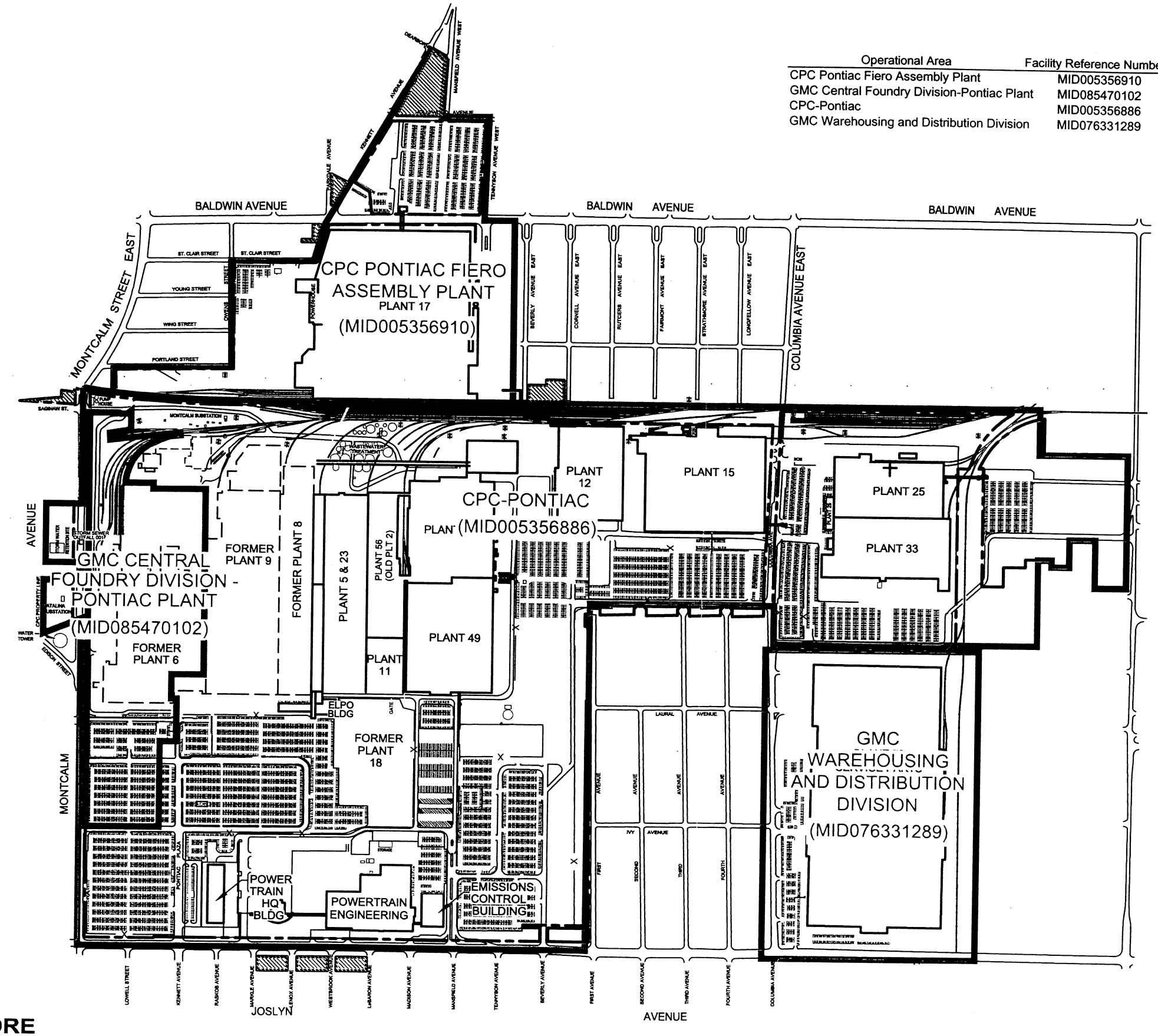
Operational Area	Facility Reference Number
CPC Pontiac Fiero Assembly Plant	MID005356910
GMC Central Foundry Division-Pontiac Plant	MID085470102
CPC-Pontiac	MID005356886
GMC Warehousing and Distribution Division	MID076331289

N

0 400 800ft

LEGEND

- PROPERTY BOUNDARY
- RAILROAD TRACKS
- FENCE
- FACILITY BOUNDARY
- FOOTPRINT OF FORMER STRUCTURE

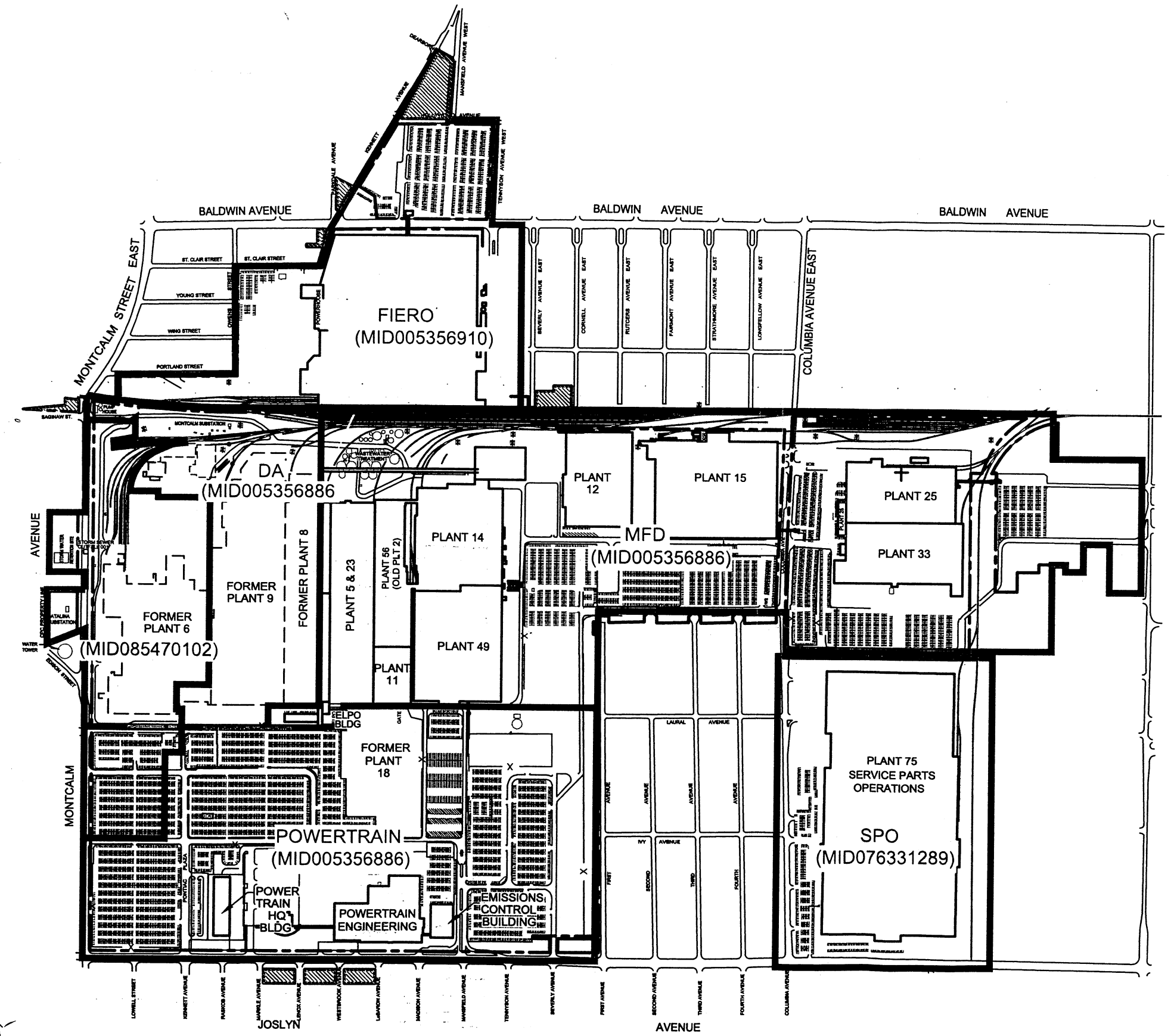


ENCORE

17487-03(001)GN-WA012 JAN 30/2001

figure 1-2

SITE FACILITIES
PONTIAC NORTH CAMPUS
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors



FIERO (FORMER PONTIAC FIERO ASSEMBLY)
DA (DEMOLITION AREA)
MFD (METAL FABRICATION DIVISION)
POWERTRAIN
SPO (SERVICE PARTS OPERATIONS)

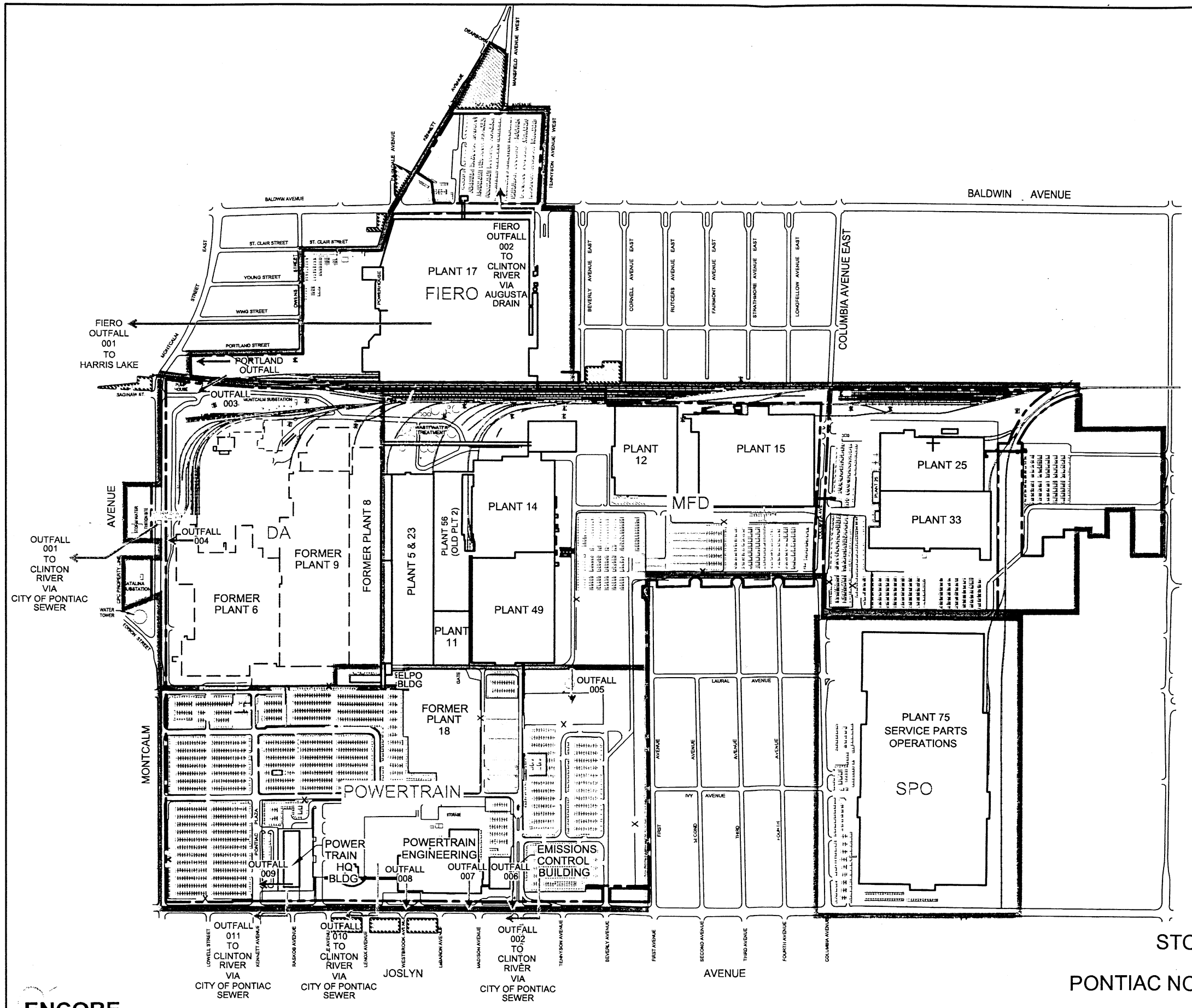
Operational Area	Facility USEPA ID Number
Fiero	MID005356910
Demolition Area (DA)	MID005356886
	MID085470102
Metal Fabrication Division (MFD)	MID005356886
Powertrain	MID005356886
	MID085470102
Service Parts Operations (SPO)	MID076331289

figure 1-4

SUMMARY OF SITE
OPERATIONAL AREAS AND FACILITIES
PONTIAC NORTH CAMPUS
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

ENCORE

17487-03(001)GN-WA011 JAN 30/2001



LEGEND

- FOOTPRINT OF FORMER STRUCTURE
- PROPERTY BOUNDARY
- RAILROAD TRACKS
- FENCE
- AREA BOUNDARY
- STORM SEWER OUTFALL
- SANITARY SEWER OUTFALL

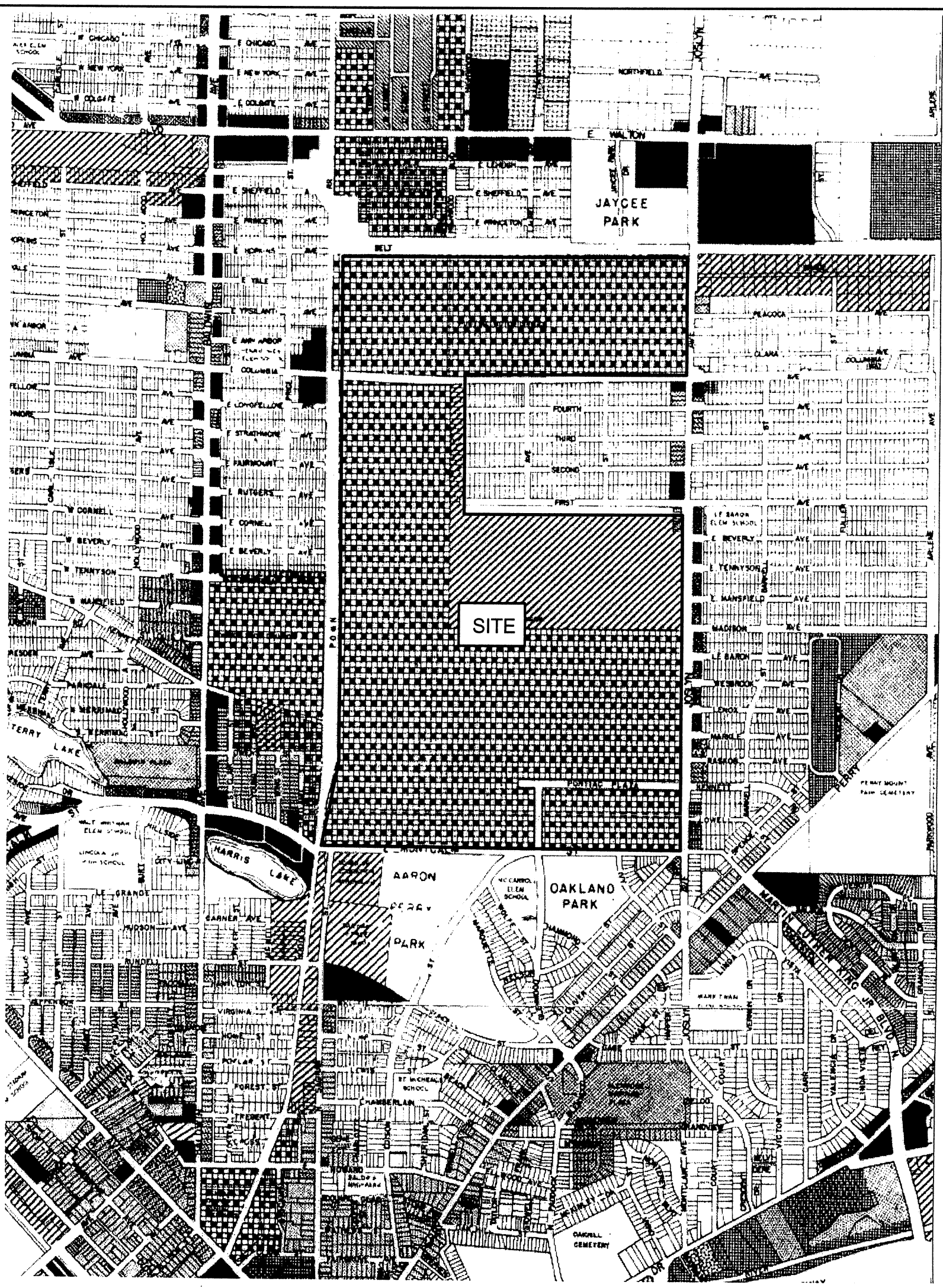
FIERO (FORMER PONTIAC FIERO ASSEMBLY)
DA (DEMOLITION AREA)
MFD (METAL FABRICATION DIVISION)
POWERTRAIN
SPO (SERVICE PARTS OPERATIONS)

figure 2-1

STORM & SANITARY SEWER OUTFALLS
STORM SEWER IM
PONTIAC NORTH CAMPUS, PONTIAC, MICHIGAN
General Motors

ENCORE

17487-02(003)GN-WA011 AUG 13/2001



SOURCE: CITY OF PONTIAC PLANNING DIVISION;
COMMUNITY DEVELOPMENT DEPT. - D.B.

R-1	ONE FAMILY DWELLING	C-C	CIVIC CENTER
R-2	TWO FAMILY AND TERRACE FAMILY DWELLING	C-O	OFFICE BUSINESS
R-3	MULTIPLE FAMILY DWELLING	C-1	LOCAL BUSINESS
R-4	MULTIPLE FAMILY DWELLING ELEVATOR APARTMENT	C-2	CENTRAL BUSINESS
R-5	TRAILER COACH PARK	C-3	FRINGE C.B.D. AND THOROUGHFARE FRONTAGE BUSINESS
R-O	RECREATION OPEN SPACE	M-1	LIGHT MANUFACTURING
P-1	PARKING	M-2	HEAVY MANUFACTURING
		IP-1	INDUSTRIAL PARK I

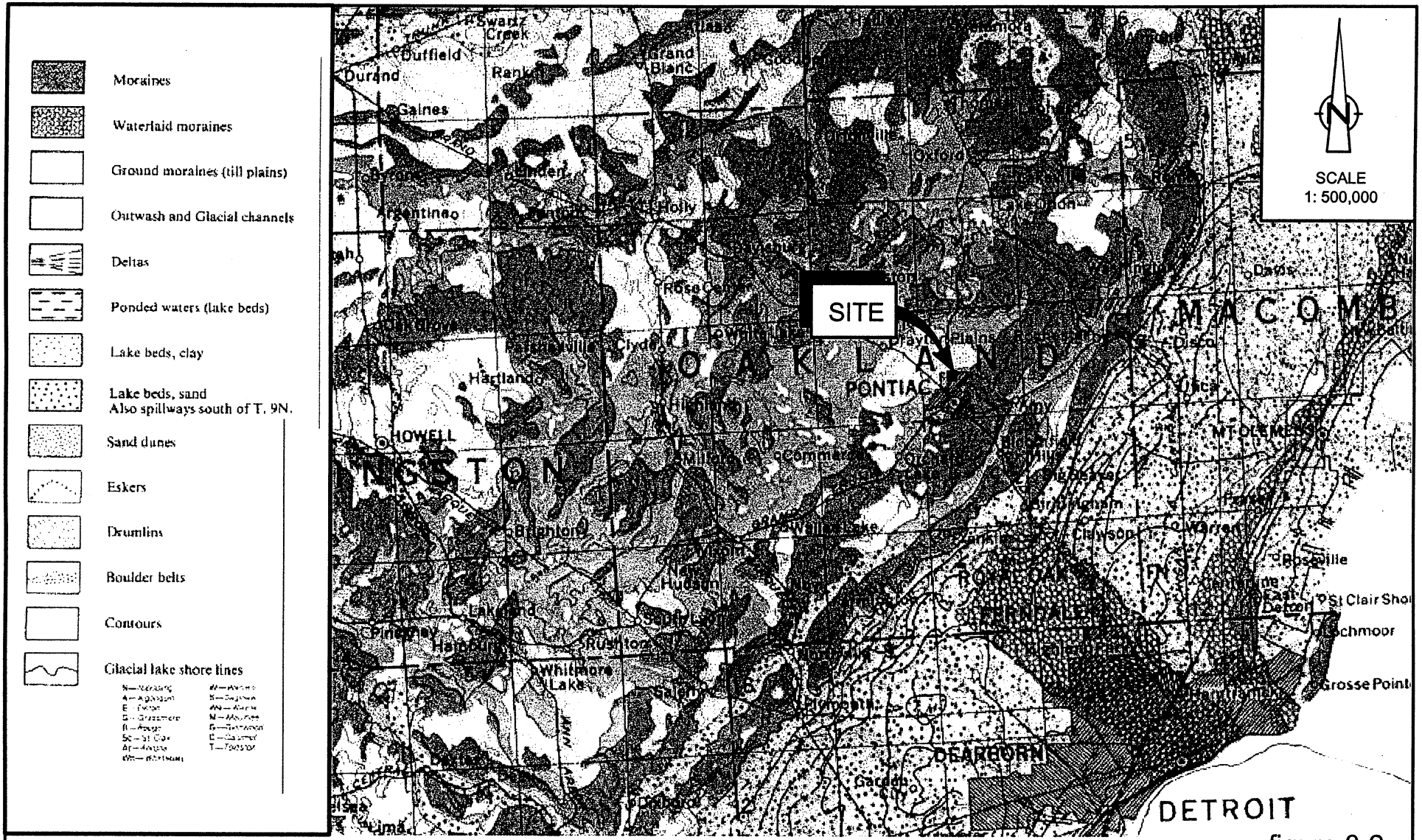
N

0 400 1200ft

figure 3-1

CITY OF PONTIAC LAND USE MAP
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

ENCORE

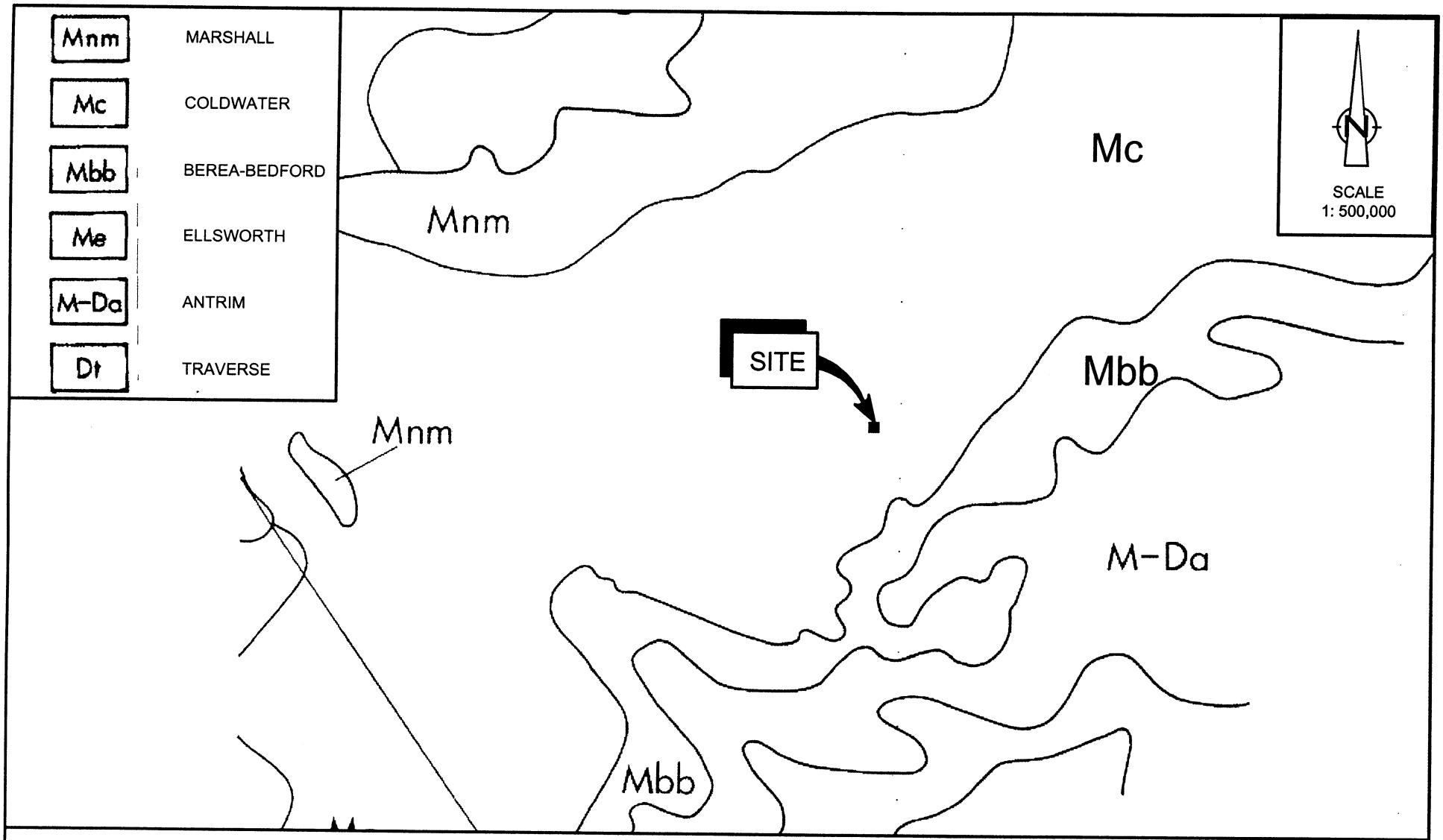


SOURCE: HYDROGEOLOGIC ATLAS OF MICHIGAN, 1955
WESTERN MICHIGAN UNIVERSITY,
DEPARTMENT OF GEOLOGY

figure 3-2

REGIONAL SURFICIAL GEOLOGY
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

ENCORE

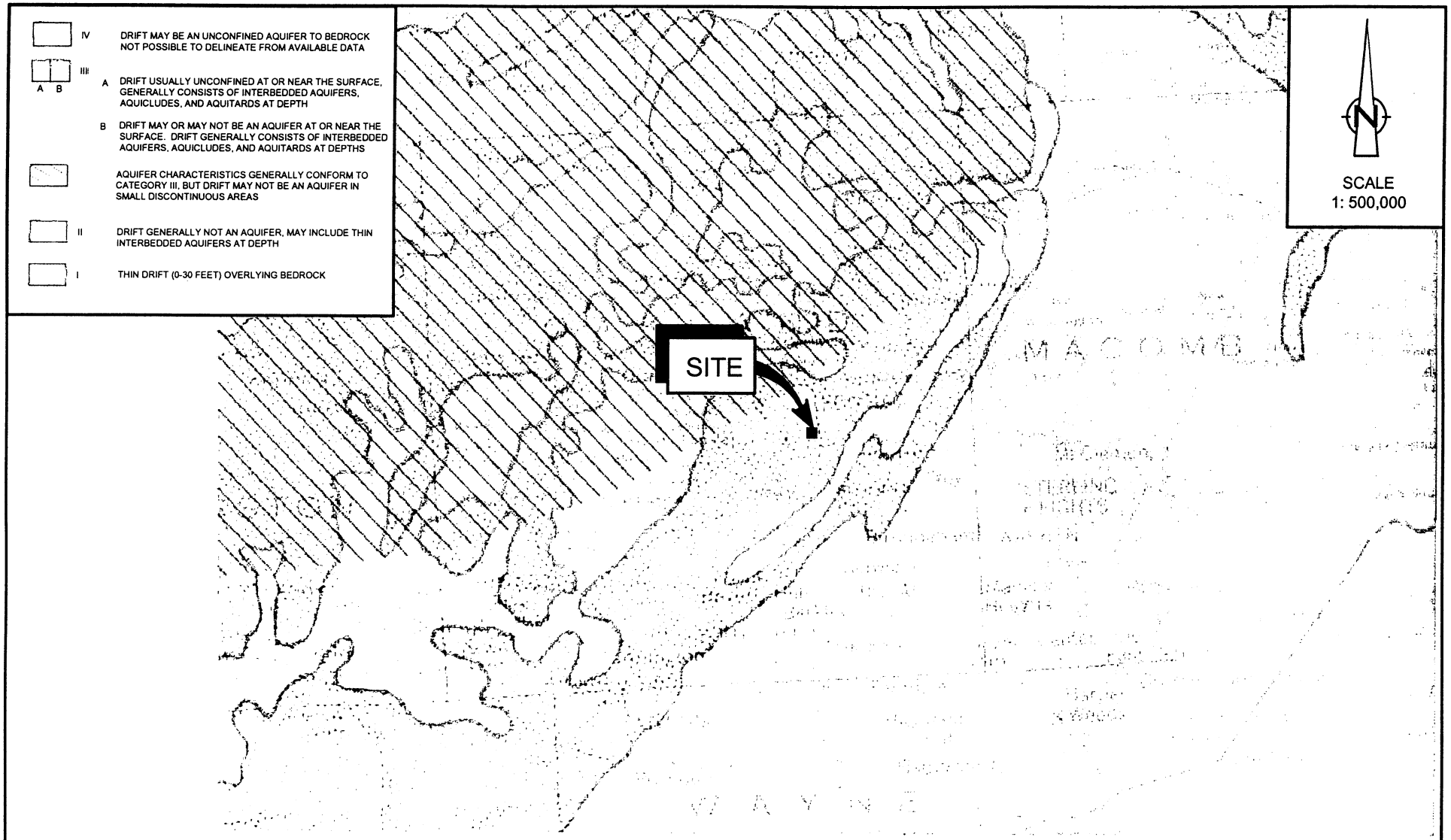


SOURCE: HYDROGEOLOGIC ATLAS OF MICHIGAN, 1981
WESTERN MICHIGAN UNIVERSITY,
DEPARTMENT OF GEOLOGY

figure 3-3
REGIONAL BEDROCK GEOLOGY
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

ENCORE

17487-03(001)GN-DE005 JAN 18/2001

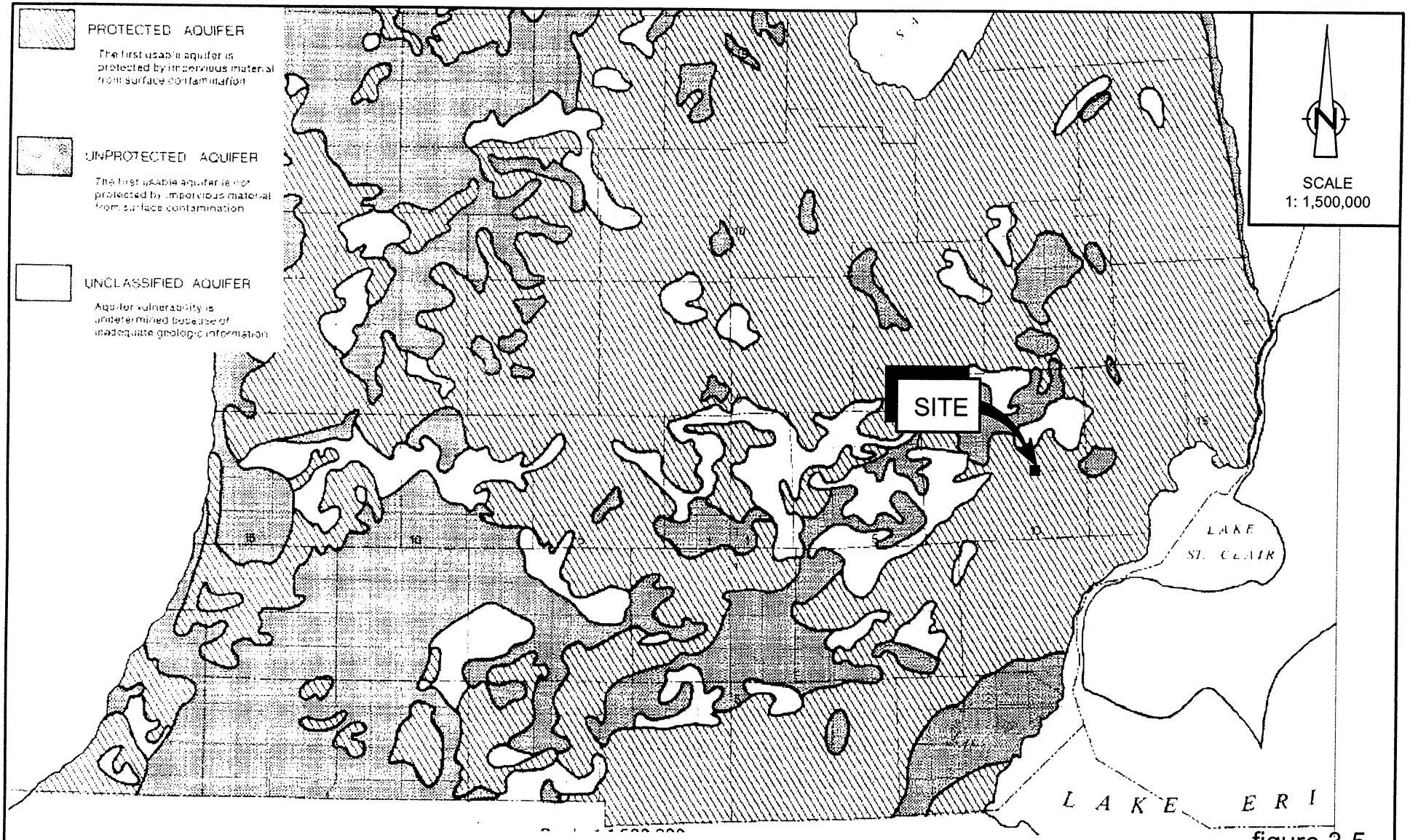


SOURCE: HYDROGEOLOGIC ATLAS OF MICHIGAN, 1981
WESTERN MICHIGAN UNIVERSITY,
DEPARTMENT OF GEOLOGY

figure 3-4

AQUIFER CHARACTERIZATION OF THE GLACIAL DRIFT
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

ENCORE

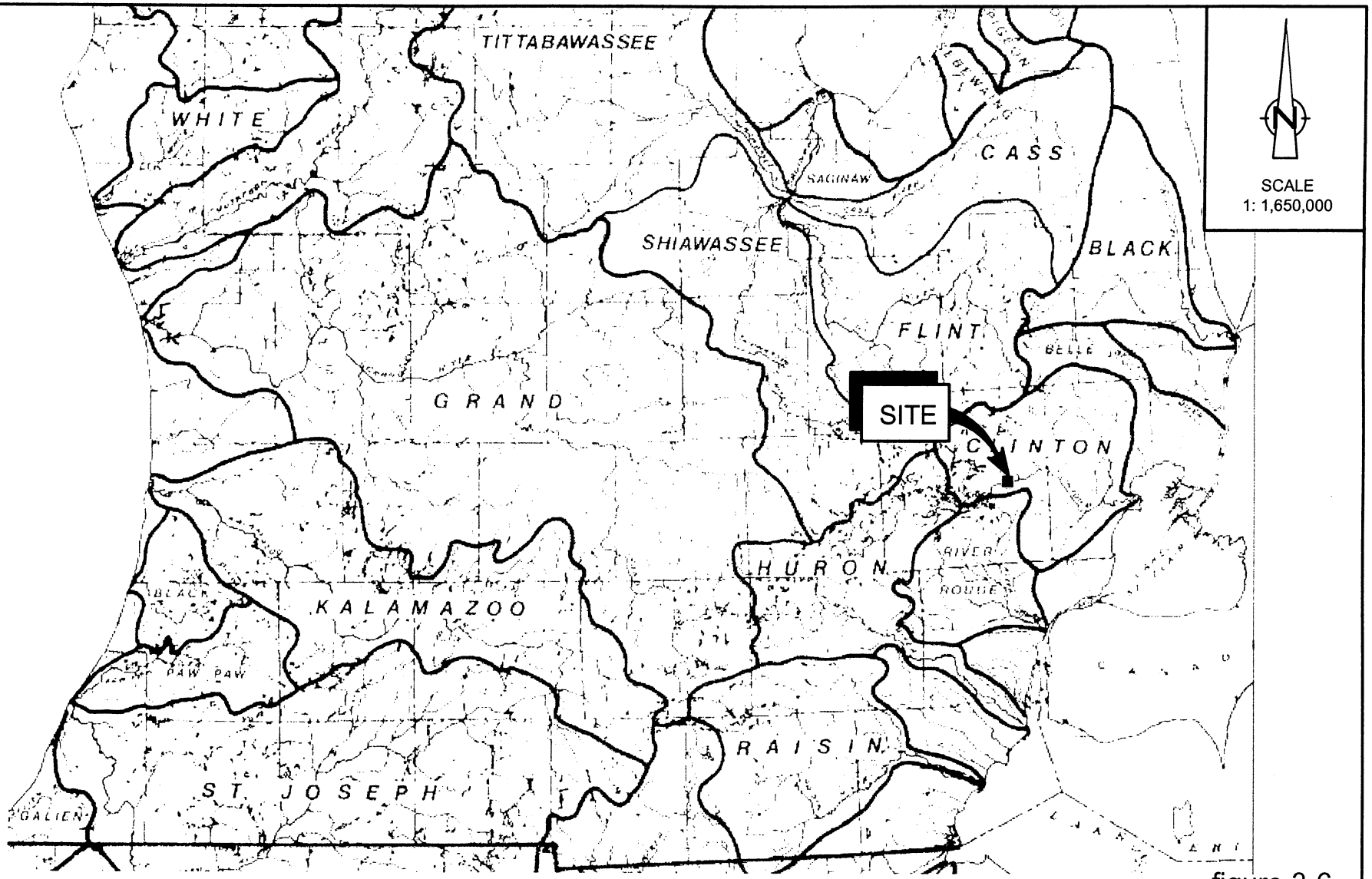


SOURCE: HYDROGEOLOGIC ATLAS OF MICHIGAN, 1981
WESTERN MICHIGAN UNIVERSITY,
DEPARTMENT OF GEOLOGY

figure 3-5

AQUIFER VULNERABILITY TO SURFACE CONTAMINATION
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

ENCORE

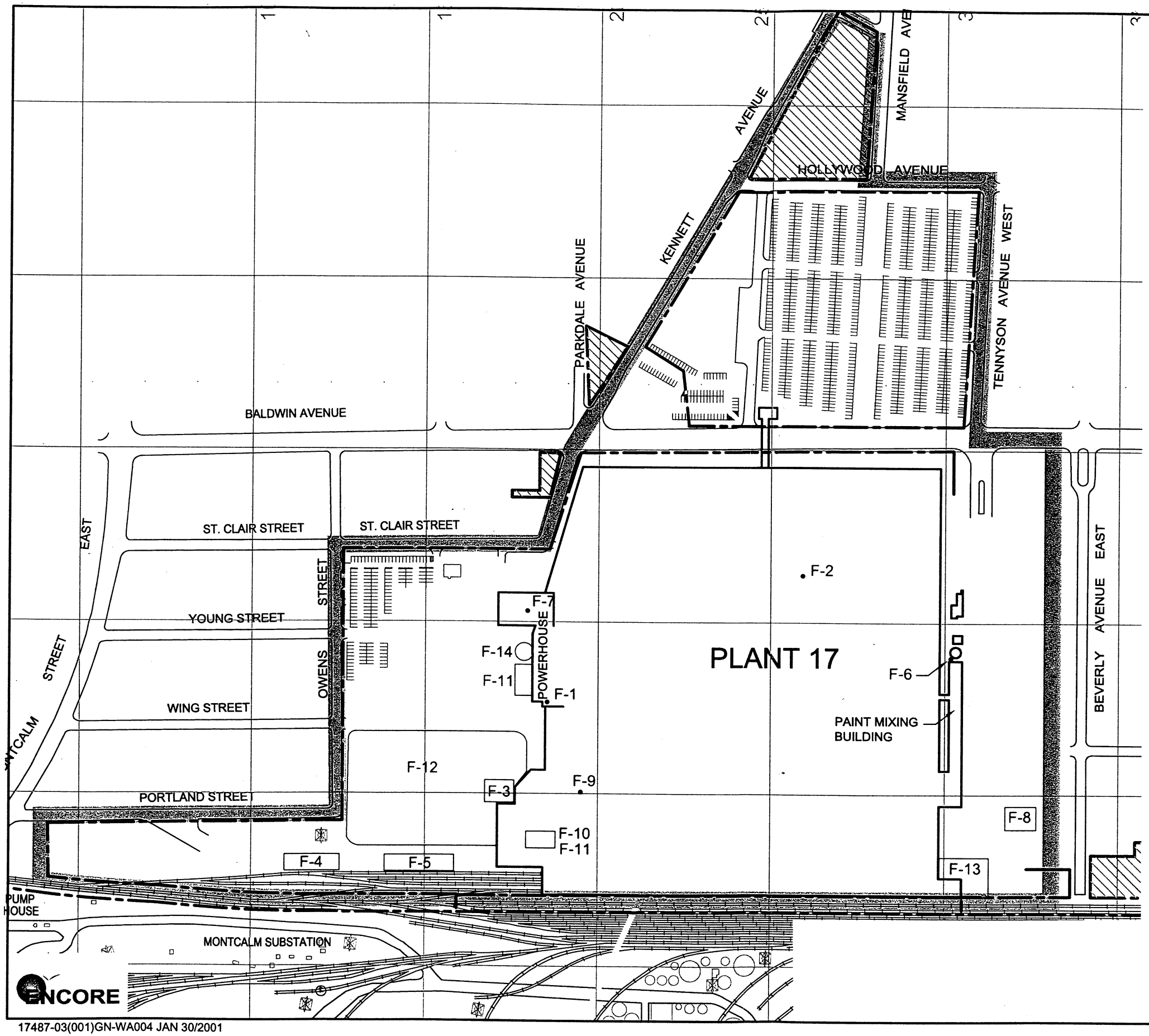


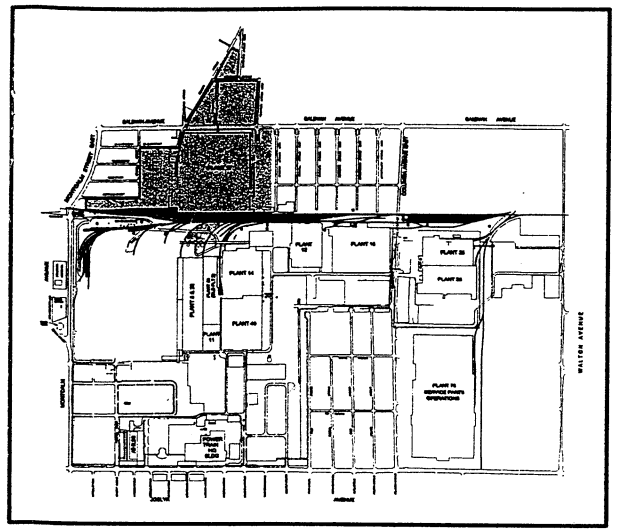
SOURCE: HYDROGEOLOGIC ATLAS OF MICHIGAN, 1980
WESTERN MICHIGAN UNIVERSITY,
DEPARTMENT OF GEOLOGY

figure 3-6

RIVER BASINS
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

ENCORE





KEY PLAN

0 100 300ft

LEGEND

- PROPERTY BOUNDARY
- RAILROAD TRACKS
- x FENCE
- F-2 AREA OF INTEREST
- OPERATIONAL AREA BOUNDARY

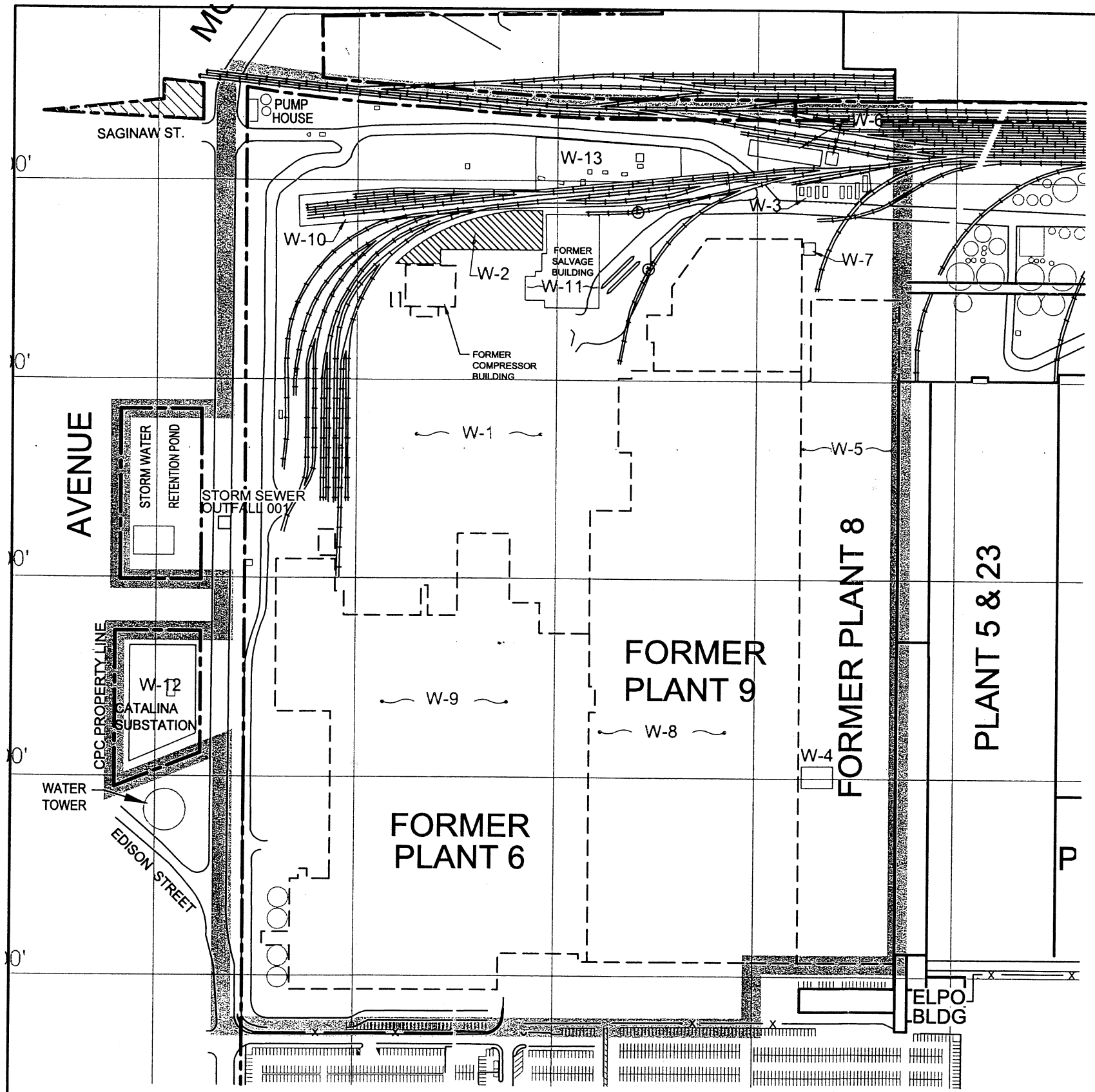
AOI DESCRIPTION

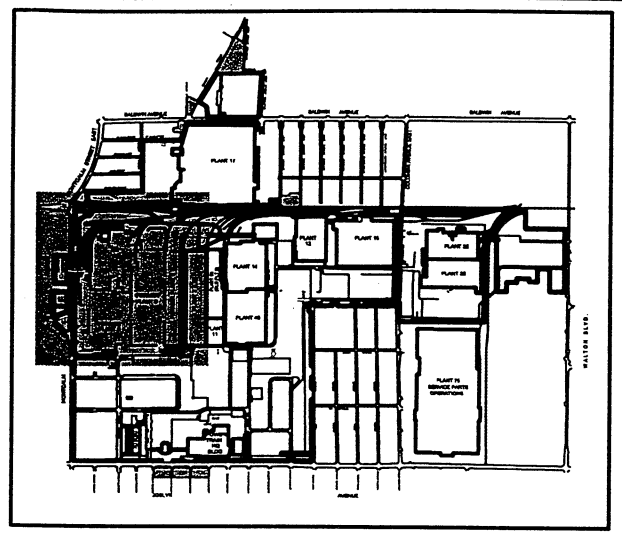
F-1 - POWERHOUSE SATELLITE ACCUMULATION AREAS
F-2 - WASTE GASOLINE ACCUMULATION AREA
F-3 - CONTAINER STORAGE AREA
F-4 - CLOSED CONTAINER STORAGE AREA
F-5 - FORMER FIERO WWTP
F-6 - WASTE PURGE THINNER UST/PRODUCT USTS
F-7 - WASTEWATER COLLECTION SUMPS
F-8 - FORMER PAINT SLUDGE STORAGE AREA
F-9 - TEMPORARY CONTAINER STORAGE AREA
F-10 - HIGH-PRESSURE FLY ASH SILO
F-11 - LOW PRESSURE FLY ASH SILOS
F-12 - COAL STORAGE AREA
F-13 - FORMER OILY GRAVEL/DEBRIS AREA
F-14 - FUEL AST AREA

figure 6-1

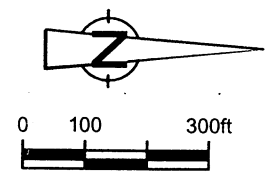
AREAS OF INTEREST
PONTIAC NORTH CAMPUS - FIERO
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

17487-03(001)GN-WA004 JAN 30/2001





KEY PLAN



LEGEND

	PROPERTY BOUNDARY
	RAILROAD TRACKS
x	FENCE
W-3	AREA OF INTEREST
	OPERATIONAL AREA BOUNDARY

AOI DESCRIPTION

W-1 - WEST YARD
W-2 - FORMER HAZARDOUS WASTE STORAGE PAD
W-3 - FORMER PLANT 8 FLAMMABLE LIQUID STORAGE TANK FARM
W-4 - TRANSFORMER SUBSTATION D-1
W-5 - FORMER PLANT 8 BASEMENT AST AREA
W-6 - FORMER PLANT 8 FLAMMABLE MATERIAL STORAGE BUILDING
W-7 - FORMER PLANT 9 TURBO TANK
W-8 - FORMER PLANT 9 BASEMENT AST AREA
W-9 - FORMER CENTRAL FOUNDRY (PLANT 6) RESIN SPILL AND UST
W-10 - RAILROAD MARSHALLING AREA DRAINAGE SYSTEM
W-11 - SALVAGE YARD SUMP DRAIN
W-12 - CATALINA SUBSTATION
W-13 - MONTCALM SUBSTATION

NOTE: THERE IS NO SPECIFIC LOCATION FOR AOI W-5, W-8, AND W-11.

figure 6-2

AREAS OF INTEREST
PONTIAC NORTH CAMPUS - DEMOLITION AREA
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

ENCORE

17487-03(001)GN-WA006 JAN 30/2001

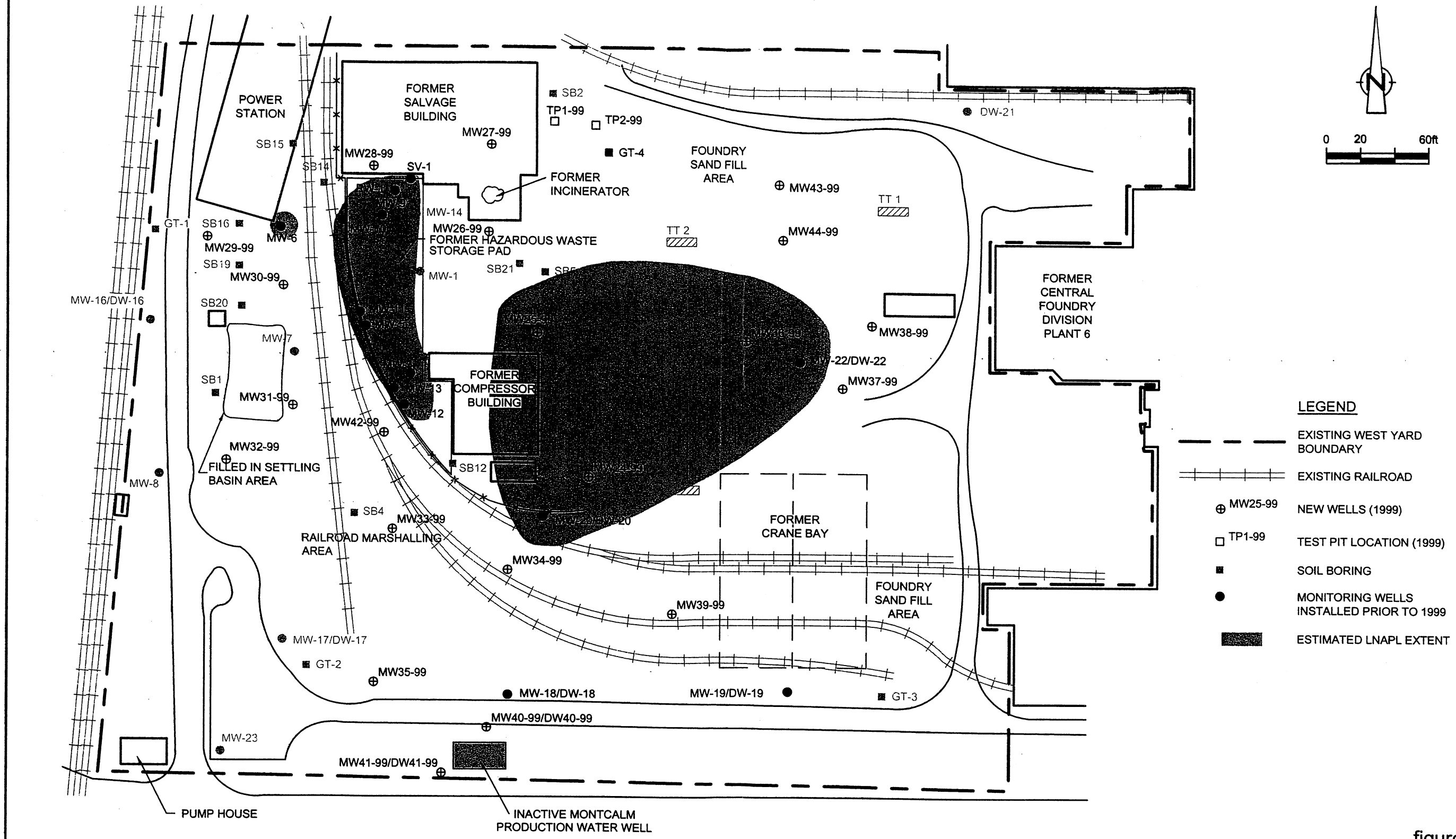


figure 6-3

CURRENT ESTIMATED EXTENT OF LNAPL
WEST YARD, PONTIAC NORTH CAMPUS
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

ENCORE

17487-03(001)GN-WA007 JAN 26/2001

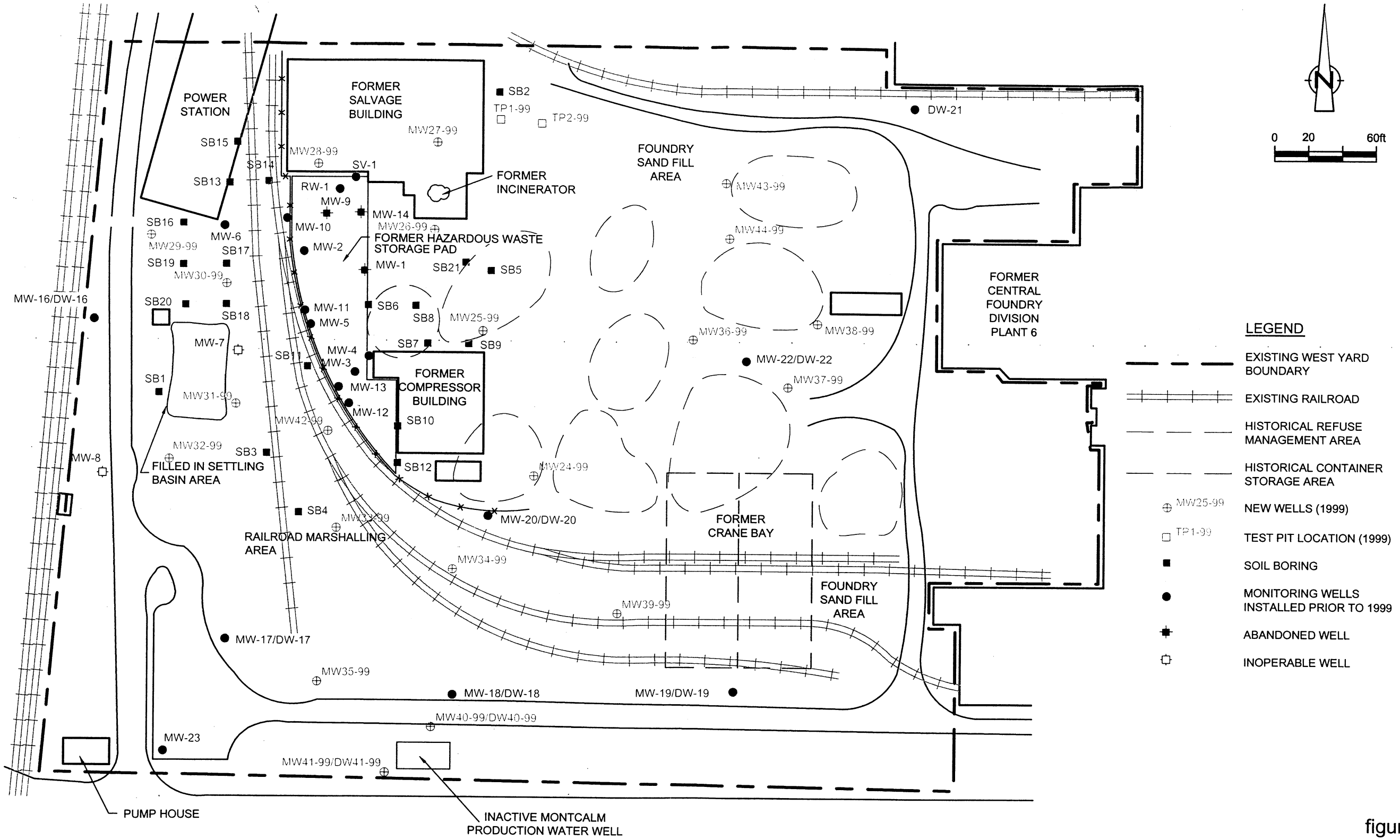


figure 6-4

SOIL BORING AND MONITORING WELL LOCATIONS
WEST YARD, PONTIAC NORTH CAMPUS
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

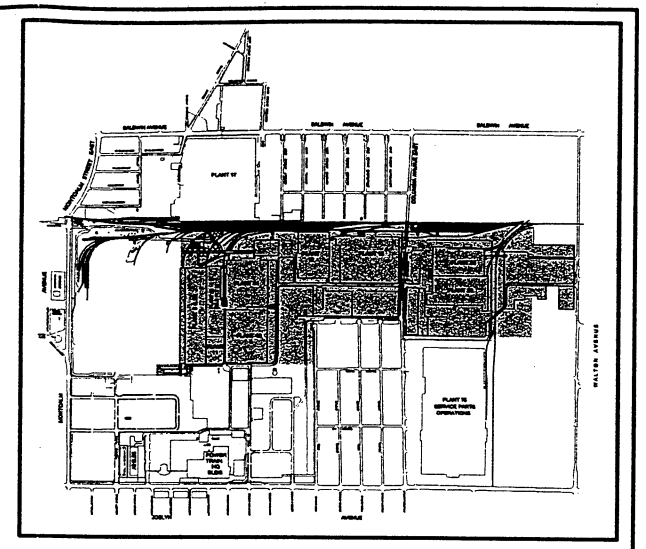
ENCORE

17487-03(001)GN-WA009 JAN 26/2001

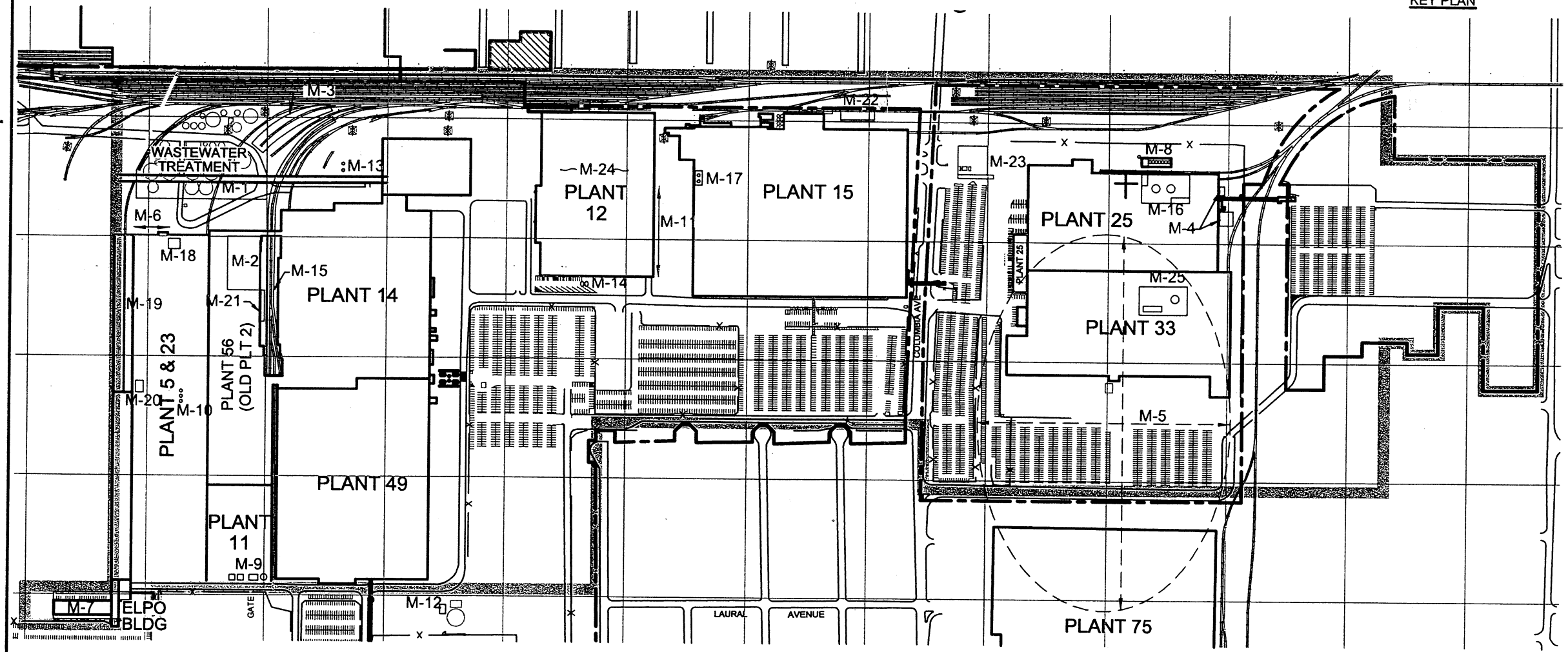
AOI DESCRIPTION

M-1 - WASTEWATER TREATMENT PLANT AREA
M-2 - FORMER PLATING OPERATIONS AREA
M-3 - FORMER TRACK 31
M-4 - PLANT 25 UST/AST AREA
M-5 - FORMER A-2 FILL AREA
M-6 - PLANT 5 HYDRAULIC FLUID SPILL
M-7 - ELPO BUILDING
M-8 - PLANT 25 OIL STORAGE AREA
M-9 - PLANT 11 HEAT TREAT OIL STORAGE AREA
M-10 - PLANT 23 BASEMENT AST AREA
M-11 - PLANT 12 FORMER GASOLINE STORAGE AREA
M-12 - AST EAST OF PLANT 49
M-13 - AST AREA WEST OF PLANT 14
M-14 - CURRENT AST AREA EAST OF PLANT 12
M-15 - TRACK 26
M-16 - PLANT 25 BASEMENT SUMP AREA
M-17 - PLANT 15 SOUTHERN PIPING TRENCH
M-18 - PLANT 5 WASTE ACCUMULATION AREA
M-19 - PLANT 5 SOUTHERN ACCESS RAILWAY
M-20 - PLANT 23 BASEMENT AREA
M-21 - PLANT 14 TRANSFORMER STATION
M-22 - PLANT 15 - COLUMBIA AVENUE SWITCH HOUSE
M-23 - PLANTS 25, 33 AND 75 SUBSTATION AND POWER BUILDING
M-24 - PLANT 12 TRANSFORMER OIL SPILL
M-25 - PLANT 33 BASEMENT SUMP AREA

NOTE: THERE IS NO SPECIFIC LOCATION FOR AOI M-11 AND AOI M-24.



KEY PLAN



LEGEND

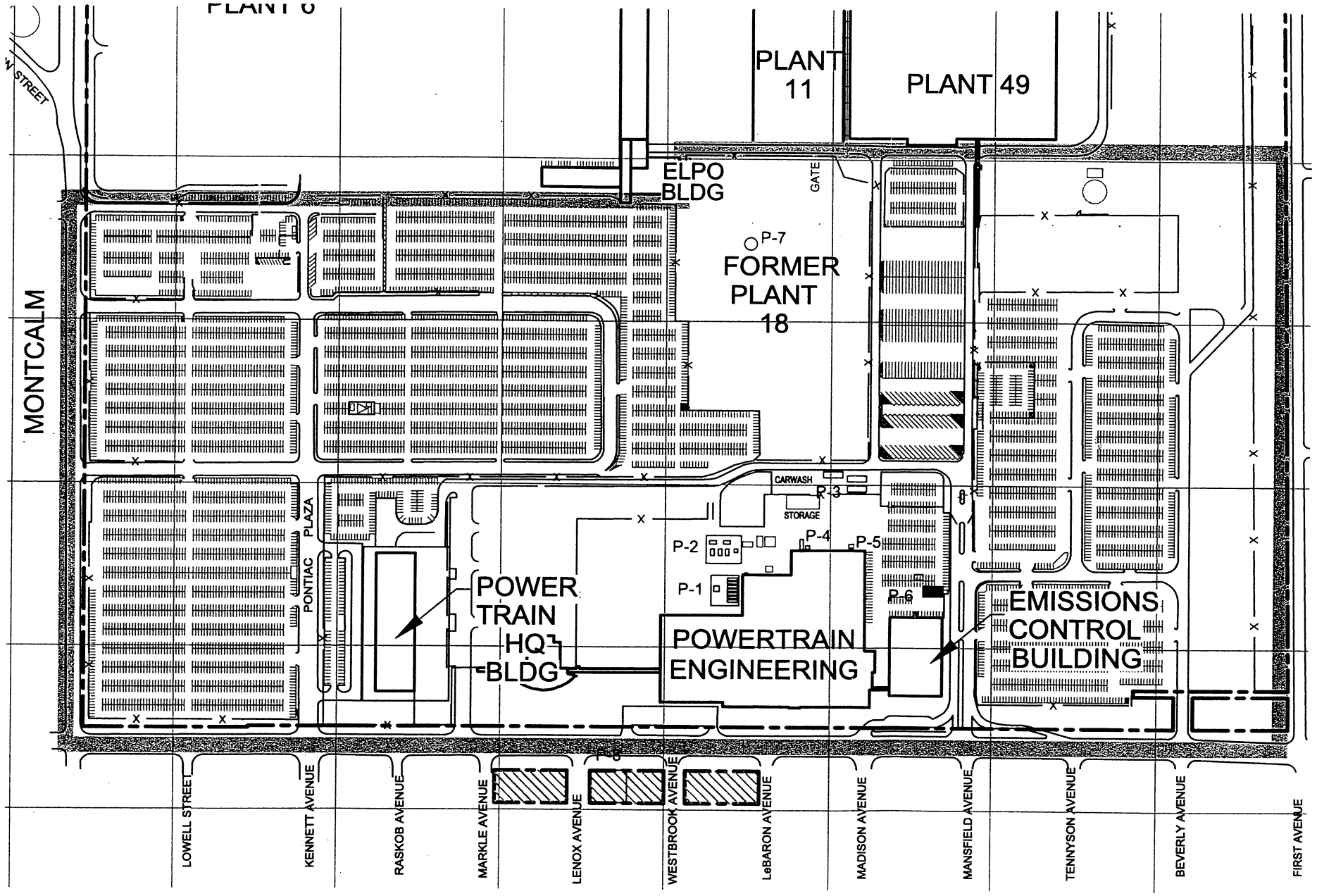
- PROPERTY BOUNDARY
- RAILROAD TRACKS
- FENCE
- M-15 AREA OF INTEREST
- OPERATIONAL AREA BOUNDARY

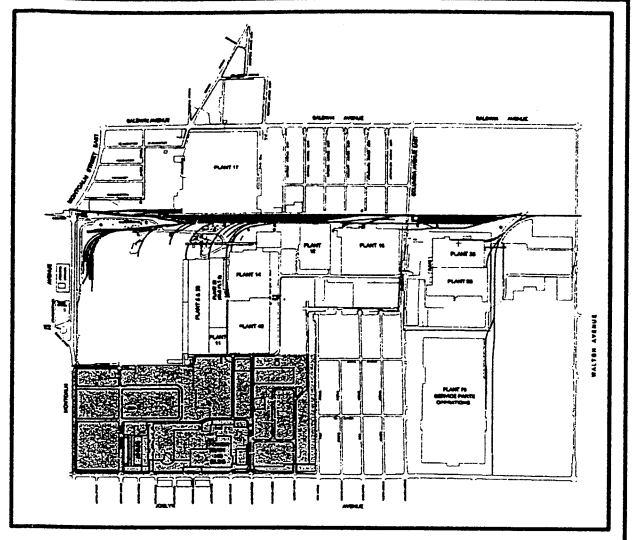
ENCORE

17487-03(001)GN-WA002 JAN 30/2001

figure 6-5

AREAS OF INTEREST
PONTIAC NORTH CAMPUS - METAL FABRICATION DIVISION (MFD)
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors





KEY PLAN

N

0 200 400ft

LEGEND

- PROPERTY BOUNDARY
- RAILROAD TRACKS
- FENCE
- P-7 AREA OF INTEREST
- OPERATIONAL AREA BOUNDARY

AOI DESCRIPTION

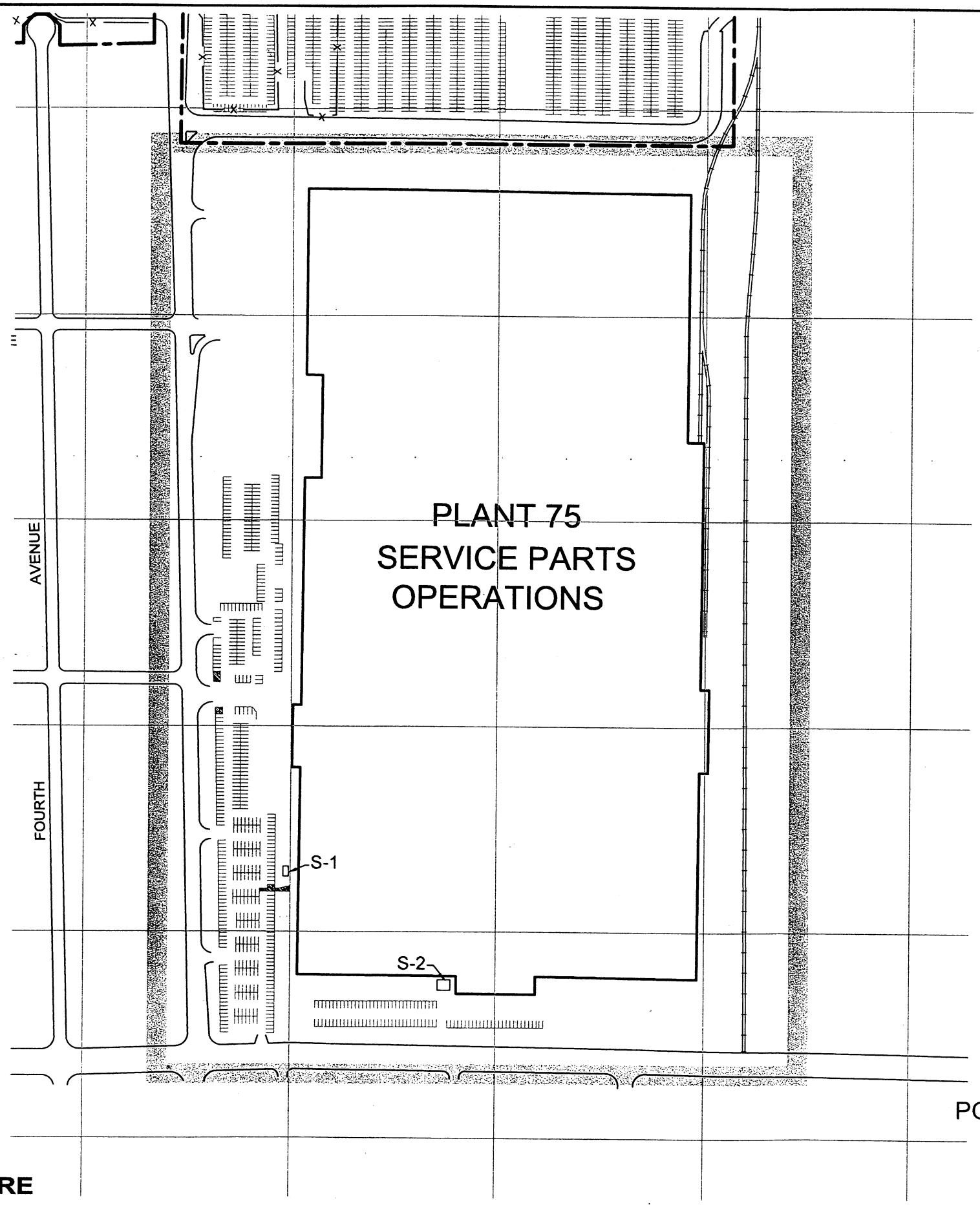
P-1 - FORMER UST FARM
P-2 - EXISTING UST FARM
P-3 - CAR WASH
P-4 - FORMER USED OIL UST AND UTILITY LINE
P-5 - FORMER STODDARD SOLVENT UST
P-6 - FORMER UST FARM/STODDARD SOLVENT AST
P-7 - FORMER PLANT 18 COOLANT AST
P-8 - VACANT LOT FORMER UST

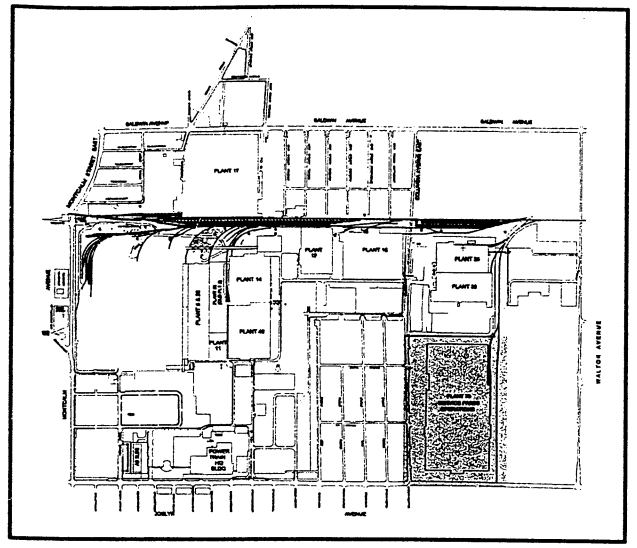
figure 6-6

AREAS OF INTEREST
PONTIAC NORTH CAMPUS - POWERTRAIN
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

ENCORE

17487-03(001)GN-WA005 JAN 30/2001





KEY PLAN

0 100 300ft

LEGEND

- PROPERTY BOUNDARY
- RAILROAD TRACKS
- x FENCE
- S-1 AREA OF INTEREST
- OPERATIONAL AREA BOUNDARY

AOI DESCRIPTION

S-1 - FORMER GASOLINE UST
S-2 - FORMER DIESEL UST

figure 6-7

AREAS OF INTEREST
PONTIAC NORTH CAMPUS - SERVICE PARTS OPERATIONS (SPO)
CURRENT CONDITIONS REPORT
PONTIAC, MICHIGAN
General Motors

ENCORE

17487-03(001)GN-WA003 JAN 29/2001

Appendix A:

A-1 Fiero PA/VSI Report (PRC, 1992)
A-2 Certification Regarding Potential Releases from Solid Waste Management Units (GM, 1986c)

A-1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

HRE-8J

November 5, 1992

Mr. Gary Hart
Mail Code 4915
General Motors Corporation
Pontiac Manufacturing Operations
One Pontiac Plaza
Pontiac, MI 48340-2952

Re: Visual Site Inspection
GMC Pontiac Fiero Plant
Pontiac, Michigan
MID 005 356 910

Dear Mr. Hart:

As indicated in the letter of introduction sent to you on January 27, 1992, the U.S. Environmental Protection Agency is enclosing a copy of the final Preliminary Assessment/Visual Site Inspection (PA/VSI) report for the referenced facility. The executive summary and conclusions and recommendations sections have been withheld as Enforcement Confidential.

If you have any questions, please call Francene Harris at (312) 886-2884.

Sincerely yours,

Kevin M. Pierard, Chief
Minnesota/Ohio Technical Enforcement Section
RCRA Enforcement Branch

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PRC Environmental Management, Inc.
233 North Michigan Avenue
Suite 1621
Chicago, IL 60601
312-856-8700
Fax 312-938-0118

PRC

PRELIMINARY ASSESSMENT/ VISUAL SITE INSPECTION

GMC PONTIAC FIERO PLANT
PONTIAC, MICHIGAN
MID 005 356 910

FINAL REPORT

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460

Work Assignment No.	:	R05032
EPA Region	:	5
Site No.	:	MID 005 356 910
Date Prepared	:	October 14, 1992
Contract No.	:	68-W9-0006
PRC No.	:	309-R05032MI33
Prepared by	:	PRC Environmental Management, Inc. (Deb Harrity)
Contractor Project Manager	:	Shin Ahn
Telephone No.	:	(312) 856-8700
EPA Work Assignment Manager	:	Kevin Pierard
Telephone No.	:	(312) 886-4448

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2.0	FACILITY DESCRIPTION		3
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	2.2	FACILITY OPERATIONS	3
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Attachments

A VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS
B VISUAL SITE INSPECTION FIELD NOTES

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1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. R05032 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading-unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility
- Obtain information on the operational history of the facility
- Obtain information on releases from any units at the facility
- Identify data gaps and other informational needs to be filled during the VSI

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA
- Identify releases not discovered during the PA
- Provide a specific description of the environmental setting
- Provide information on release pathways and the potential for releases to each medium
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases

The VSI includes interviewing appropriate facility staff, inspecting the entire facility to identify all SWMUs and AOCs, photographing all visible SWMUs, identifying evidence of releases, initially identifying potential sampling parameters and locations, if needed, and obtaining all information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the GMC Pontiac Fiero Plant (GMC) facility in Pontiac, Michigan. The PA was completed on February 1, 1992. PRC gathered and reviewed information from Michigan Department of Natural Resources (MDNR) and from EPA Region 5 RCRA files. The VSI was conducted on February 6, 1992. It included interviews with GMC facility representatives and a walk-through inspection of the facility. Eleven SWMUs and no AOCs were identified at the facility.

The VSI is summarized and 10 inspection photographs are included in Attachment A. Field notes from the VSI are included in Attachment B.

2.0 FACILITY DESCRIPTION

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors.

2.1 FACILITY LOCATION

The GMC facility is located at 900 Baldwin Street in the City of Pontiac, Oakland County, Michigan (latitude 42° 39' 41" N and longitude 83° 17' 40" W), as shown in Figure 1. The facility occupies 71 acres within the GMC and Chevrolet, Pontiac, Canada Group (CPC) industrial center in Pontiac Plaza. GMC and CPC automotive manufacturing facilities and Pontiac Motor Company offices border the facility to the northeast, east, and southeast. Residential areas border the facility to the north, south, and west.

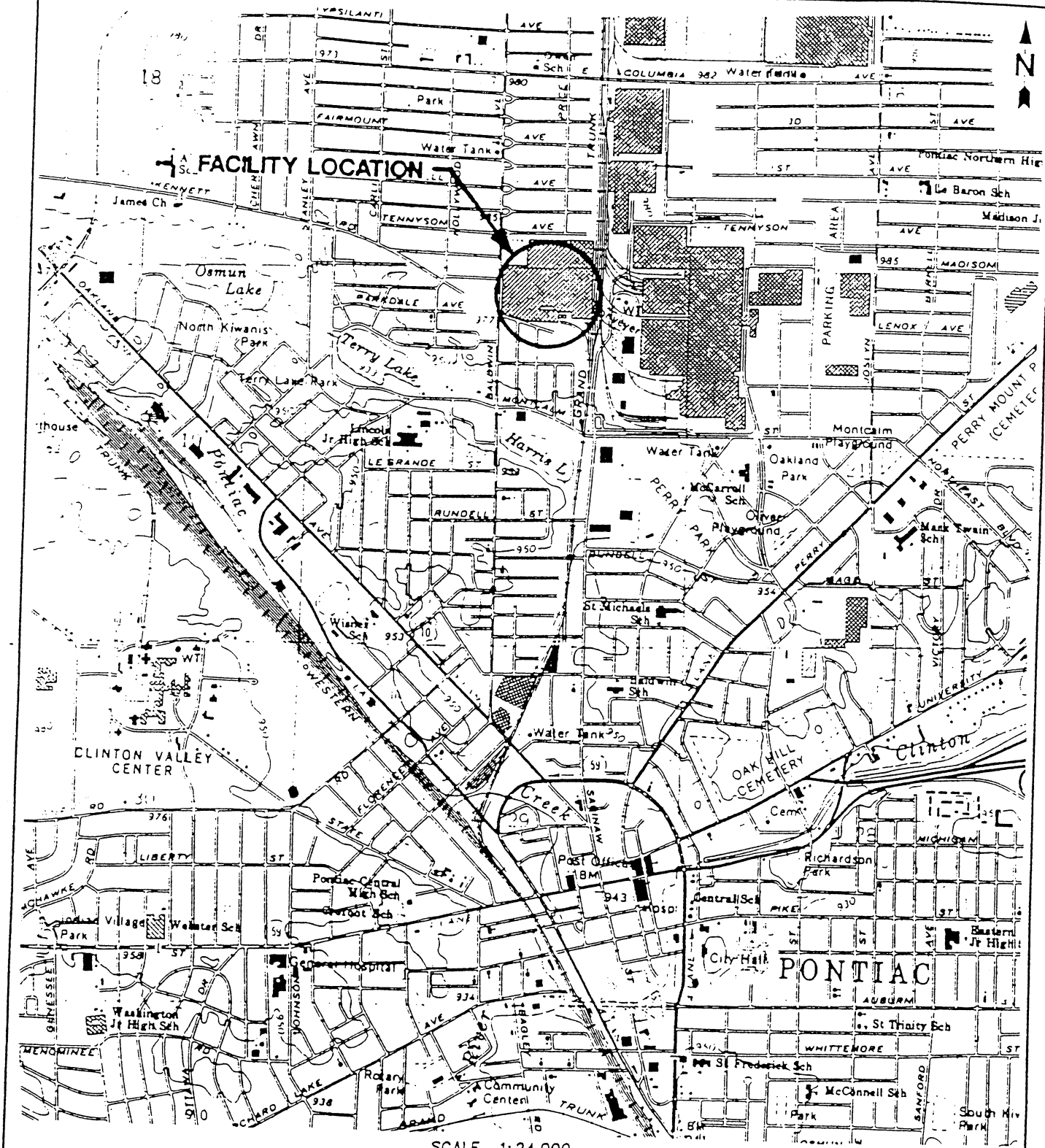
The facility is completely fenced and all access is controlled by a 24-hour gate house and by security guards.

2.2 FACILITY OPERATIONS

The GMC facility began operations in 1925 as the GMC Fisher Body Plant. This facility supplied closed-type automotive bodies to the Oakland Motor Car Company. In 1932, Pontiac Motor Division replaced the Oakland Motor Car Company. In 1935, the original GMC Fisher Body Plant joined a GMC Fisher Body Pontiac Plant, and operations consisted of metal fabrication, soft trim fabrication, and body assembly. In 1942, the facility was converted to defense production work.

The facility was modernized from 1959 to 1961 to a two-line automotive assembly operation. In August 1982, GMC Fisher Body Plant ceased operations at the facility, and Pontiac Motor Division took possession of it. From 1983 to 1988, the facility was owned and operated by the GMC Pontiac Fiero Plant.

The facility assembled Pontiac Fieros on a one-car assembly line. The facility was divided into a body shop, chassis department, paint shop, and trim department. In August 1988, the facility ceased assembly operations.



GMC PONTIAC FIERO FACILITY
PONTIAC, MICHIGAN

FIGURE 1

FACILITY LOCATION

SOURCE: MODIFIED FROM USGS, 1983

EMC ENVIRONMENTAL MANAGEMENT, INC.

The facility currently operates a coal-burning power plant that supplies air, steam, and electricity to adjacent GMC and CPC automotive manufacturing facilities. The facility had an average of 4,000 employees from 1958 to 1982.

Facility SWMUs are identified in Table 1. The facility layout, including SWMUs and AOCs is shown in Figure 2.

2.3 WASTE GENERATING PROCESSES

As part of its current operations, the facility generates several hazardous and nonhazardous waste. Wastes currently and formerly generated at the facility are discussed below. Table 2 summarizes current wastes, sources, and primary management units at the facility.

The facility currently generates two hazardous waste streams: waste gasoline and waste paint thinner. Waste gasoline (D001) is generated from fueling GMC trucks, and is accumulated in a 55-gallon drum in SWMU 2. The facility generates about 4 gallons per month (gal/mo.) of this waste stream, and the waste is sent off site for recycling.

The facility generates waste paint thinner (F003 and F005) from maintenance painting. No large-scale painting operations are present on site. Waste paint thinner is accumulated in a 55-gallon drum in SWMU 1. The facility generates only about 3 gal/mo. of this waste stream, and the waste is sent off site for recycling.

The facility generates both high and low pressure coal fly ash from the coal burning power plant. The fly ash is stored in SWMUs 10 and 11, and is sent off site for land disposal.

The facility formerly operated two paint spray booths with four vacuum filters. The filters had a capacity of 1,620 gallons per minute (gpm) each. The facility generated paint and sealer scrap (F003 and F005) and waste purge thinner (F005) from painting operations. The F003 and F005 paint and sealer scrap was stored in 55-gallon drums in SWMUs 3, 4, and 9, and the F005 waste purge thinner waste was pumped into a Purge Thinner Underground Storage Tank (SWMU 6). These waste streams were sent off site for recycling.

The facility generated adhesive spray scrap, urethane scrap, and solvent scrap (F001) waste from automobile finishing operations. These wastes were also stored in 55-gallon drums in SWMUs 3 and 4. Wastewater treatment sludge (F006) was generated from wastewater treatment. The sludge was stored in 55-gallon drums in SWMUs 3 and 4. The waste scraps were sent off site for land disposal, and the sludge waste was sent off site for recycling.

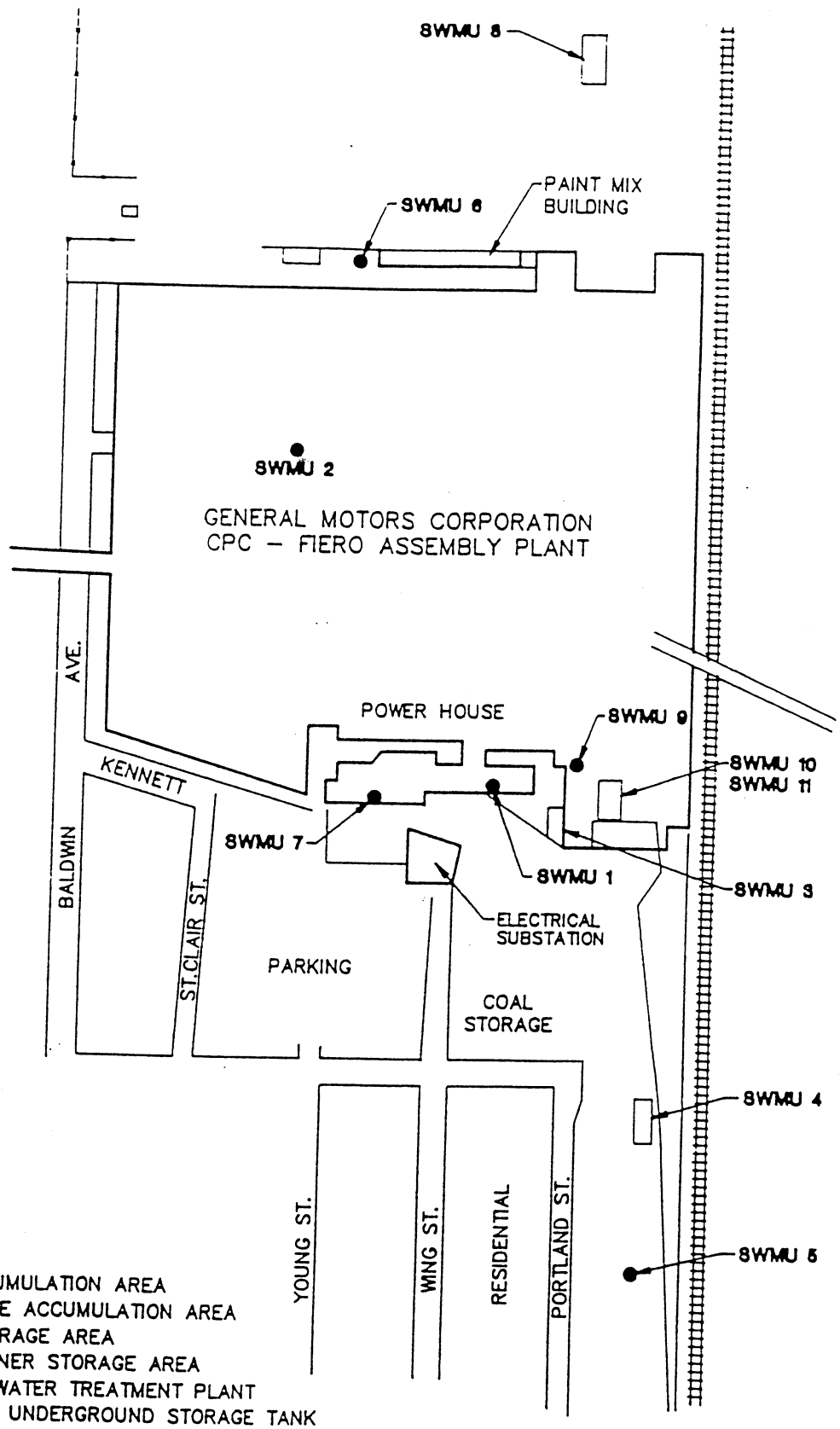
TABLE 1

SOLID WASTE MANAGEMENT UNITS (SWMU)

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit*	Status
1	Satellite Accumulation Area	No	Active
2	Waste Gasoline Accumulation Area	No	Active
3	Container Storage Area	Yes	Undergoing closure
4	Closed Container Storage Area	Yes	Certified closed
5	Former Wastewater Treatment Plant	No	Inactive and removed
6	Purge Thinner Underground Storage Tank	Yes	Undergoing closure
7	Wastewater Collection Sump	No	Active
8	Paint Sludge Storage Area	No	Inactive
9	Temporary Container Storage Area	No	Inactive
10	High Pressure Fly Ash Storage Silo	No	Active
11	Low Pressure Fly Ash Storage Silos	No	Active

Note:

* A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.



LEGEND

SWMU 1	SATELLITE ACCUMULATION AREA
SWMU 2	WASTE GASOLINE ACCUMULATION AREA
SWMU 3	CONTAINER STORAGE AREA
SWMU 4	CLOSED CONTAINER STORAGE AREA
SWMU 5	FORMER WASTEWATER TREATMENT PLANT
SWMU 6	PURGE THINNER UNDERGROUND STORAGE TANK
SWMU 7	WASTEWATER COLLECTION SUMP
SWMU 8	PAINT SLUDGE STORAGE AREA
SWMU 9	TEMPORARY CONTAINER STORAGE AREA
SWMU 10	HIGH PRESSURE FLY ASH SILO
SWMU 11	LOW PRESSURE FLY ASH SILOS

SOURCE: MODIFIED FROM GMC, F.HEIMAN SKETCH RECEIVED BY PRC ON FEBRUARY 7,1986

GMCFIERO.DWG - 3/26/92 - MLB

GMC PONTIAC FIERO FACILITY
PONTIAC, MICHIGAN

FIGURE 2

FACILITY LAYOUT

PRC ENVIRONMENTAL MANAGEMENT, INC.

TABLE 2
SOLID WASTES

Waste/EPA Waste Code	Source	Primary Management Unit*
Waste Gasoline/D001	Fueling Operations	SWMU 2
Waste Paint Thinner/ F003 and F005	Maintenance painting	SWMU 1
High and Low Pressure Coal Fly Ash/NA	Power Plant Operations	SWMUs 10 and 11

Notes:

* Primary management unit refers to a SWMU that currently manages or formerly managed the waste.

** Nonapplicable (NA) designates nonhazardous waste.

The facility also generated nonhazardous paint sludge from painting operations, and nonhazardous sludge from filtering waste bonderite generated before wastewater treatment. Both waste streams were stored in 55-gallon drums in SWMU 8. These waste streams, along with nonhazardous wastewater are currently handled by SWMU 7, and were handled by SWMU 5. Wastewater is currently discharged to the WWTP at the adjacent CPC plant, and then discharged to the City of Pontiac public owned treatment works (POTW), and the sludge waste is sent off site for recycling.

2.4 HISTORY OF DOCUMENTED RELEASES

This section discusses the history of documented releases to ground water, surface water, air, and on-site soils at the GMC facility.

The facility had a release from Purge Thinner Underground Storage Tank (SWMU 6). The release was first discovered during the excavation of this unit (GMC, 1990). This unit was excavated in conjunction with three product underground storage tanks that stored xylene, virgin purge thinner, and cellosolve acetate. During excavation, solvent odors were detected in surface soils, and about 60 cubic yards of contaminated soil was removed and placed in three on-site roll-off boxes. Sampling results showed low levels of volatile organic compounds (VOC). After further excavation, four soil borings were advanced around this unit to a depth of 15 feet below the unit. Soil boring sampling results indicated that several samples exceeded background levels for arsenic, cadmium, copper, lead, mercury, nickel, and zinc. The highest concentrations measured were 67 parts per million (ppm) for lead, and 150 ppm for zinc. This sampling was done as part of an approved closure plan (GMC, 1990).

The facility had a release from Container Storage Area (SWMU 3) (GMC, 1990). The facility cored the concrete pad of this unit in August 1989 as part of an approved closure plan. The pad was cored at 20-foot intervals to a depth of 2.6 feet below the pad. Several soil samples exceeded background levels for arsenic, barium, cadmium, mercury, nickel, selenium, and zinc. The highest concentrations measured were 84 ppm for arsenic, 220 ppm for barium, 52 ppm for copper, and 140 ppm for zinc. Several organic compounds were also detected above detection limits, including 1,1,1-trichloroethane, 1,1,2,2-tetrachloroethane, and 1,1-dichloroethane. The highest concentration measured was 11 ppm for 1,1,1-trichloroethane. The facility submitted a revised closure plan summarizing activities on September 12, 1990 (GMC, 1990). GMC is awaiting closure approval.

The facility had a release from Closed Container Storage Area (SWMU 4). The facility took eight soil samples in the area surrounding this unit. Sampling results showed soils to exceed

the extraction procedure toxicity standards for zinc, chromium, barium, and lead (GMC, 1986c).

2.5 REGULATORY HISTORY

The GMC facility submitted a Notification of Hazardous Waste Activity to EPA on August 8, 1980 (GMC, 1980a). The facility notified as a generator and transporter, and a treatment, storage, or disposal (TSD) facility of hazardous waste. Waste codes on the notification included the following: F001, F002, F003, F005, F006, F007, F008, F009, F010, F011, F012, D001, D002, D003, F017, and F018.

The GMC facility submitted a Part A permit application to EPA on November 11, 1980 (GMC, 1980b). The permit application listed the facility as a TSD facility. The permit included processes requiring container storage (S01), tank storage (S02) and tank treatment (T01). Waste codes on the permit application included the following: F001, F002, F003, F005, F006, F007, F008, F009, F010, F011, F017, and D002. The permit application also listed other treatment (T04), including 384,000 gallons per day (gpd) wastewater treatment sludge dewatering; 3,110,400 gpd paint sludge dewatering; and 86,400 gpd bonderite sludge dewatering.

The GMC facility submitted a revised Part A permit application to EPA on June 27, 1985 (GMC, 1985). The revised permit application stated the owner and operator had changed to Pontiac Motor Division (Fiero Plant), and included only container and tank storage (S01 and S02). The permit included 68 tons of container storage (S01) of D001 waste, and 400 tons of tank storage (S02) of D001 waste.

The GMC facility submitted a subsequent revised Part A permit application to EPA on February 21, 1986, to change 400 tons of D001 waste stored in tanks (S02) to 400 tons of F005 waste (GMC, 1986b). The GMC facility submitted another revised Part A permit application to EPA on November 4, 1987 (GMC, 1987b). This permit application included container storage (S01) for 10 tons of F003 waste and 2 tons of F001 waste.

On May 13, 1982, MDNR conducted a RCRA TSD inspection at the GMC facility (MDNR, 1982). The facility had violations regarding container management. On July 18, 1983, MDNR conducted another RCRA TSD inspection at the GMC facility (MDNR, 1983a). MDNR found violations regarding the facility waste analysis plan, inspection schedules and logs, personnel training, contingency plan, operating record, and closure plan, and a lack of required "danger" and "no smoking" signs (MDNR, 1983b). The facility responded to the violations on August 25, 1983 (GMC, 1983). MDNR notified the facility on September 2, 1983, that it appeared to be in compliance (MDNR, 1983c).

On December 3 and 4, 1985, MDNR conducted a RCRA generator and storage facility inspection at the GMC facility (MDNR, 1985). MDNR found violations regarding waste analysis plan, inspection log, personnel job descriptions, arrangements with local authorities, and closure of the former Container Storage Area (SWMU 3). The facility responded to the violations on January 10, 1986 (GMC, 1986a). MDNR notified the facility on March 7, 1986, that it appeared to be in compliance (MDNR, 1986).

On May 13 and 14, 1987, MDNR conducted a RCRA TSD and Land Disposal Restrictions inspection at the GMC facility (MDNR, 1987). MDNR found violations regarding improper waste classifications, personnel training reviews, the closure plan, container labeling, and tank requirements. The facility responded on June 22, 1987 (GMC, 1987a). According to MDNR, the facility appeared to have achieved compliance.

On May 8, 1990, MDNR conducted an inspection at the GMC facility. MDNR found no violations (MDNR, 1990). However, MDNR noted concerns regarding toxicity characteristic leaching procedures (TCLP) analyses in the facility waste analysis plan and satellite accumulation of waste.

On January 24, 1991, MDNR conducted an inspection at the GMC facility (MDNR, 1991). MDNR found violations regarding waste determinations, open container storage, and availability of the facility contingency plan. The facility responded on February 12, 1991, and sent MDNR a copy of the facility contingency plan (GMC, 1991a).

The facility submitted one closure plan for SWMUs 3 and 6 to MDNR on April 28, 1988. MDNR approved this plan on October 31, 1988. The facility began closure activities on May 9, 1989. The facility pressure cleaned the tank, and the tank was removed in conjunction with the removal of three product underground storage tanks. The facility also cleaned and decontaminated the concrete pad, collection sump, and the trench and piping of the Container Storage Area. The facility submitted a revised closure plan summarizing activities on September 12, 1990. GMC is awaiting closure approval.

The facility stopped using the Closed Container Storage Area (SWMU 4) August 15, 1985. The facility began closure activities before notifying EPA and before submitting a closure plan. The facility removed all 37 containers, and placed them in a temporary storage area in the High Pressure Fly Ash Silo (SWMU 10). The facility removed visible residue from the concrete pad, swept the area, and washed it down with detergent and water. Wastewater was collected and transferred to the wastewater treatment plant. The facility broke the concrete pad and disposed

the concrete. The area was then repaved with concrete for use as a driveway. The facility submitted a closure plan for this unit in April 1986, and closure certification on November 4, 1986. MDNR certified this unit closed in a letter dated February 3, 1988.

The facility has had numerous violations of National Pollutant Discharge Elimination System (NPDES) Permit No. MI0027804, Outfall No. 2, in the past 2 years. Recent release from Outfall 2, one of two outfalls at the facility, on October 25, 1991, consisted of copper [280 micrograms per liter (μg/L)] and lead (100 μg/L) (GMC, 1991b). The permit limitation for copper is 140 μg/L, and the limitation for lead is 75 μg/L. The facility identified the source of the release from Outfall No. 2. According to the facility, acidic rainfall comes in contact with the exposed surfaces of the building and accelerates the deteriorization of the metal surfaces. The metal surfaces therefore oxidize and surface metal flakes off, is rinsed into the gutter, and is washed into the storm sewer system during high precipitation events.

The facility met with EPA on September 24, 1991, to discuss this problem, and decided to put a coating on the exposed metal and galvanized portions of the roof. The facility coated 90 percent of the roof by the end of November 1991 (GMC, 1991b). The remaining 10 percent will be coated in spring 1992. The facility has been in compliance for the last 2 to 3 months.

The facility was first issued operating air permits in 1982, when it operated as GMC, Fisher Body Plant. The permits were for boilers with mechanical cyclonic dust collectors. The facility was issued another operating air permit on August 10, 1984, for a fluidized bed steam generator with a fabric filter collector. This permit was revised in 1989. The facility had several violations involving sulfur dioxide emissions for this permit (Permit No. 124-84). According to the facility, the most recent violations in December 1991, were due to the failure of the south limestone blower and rotary. However, a new rotary and blower were installed in January, 1992, and the facility has been in compliance (GMC, 1992).

2.6 ENVIRONMENTAL SETTING

This section describes the climate, flood plain and surface water, geology and soils, and ground water in the vicinity of the GMC facility.

2.6.1 Climate

The climate in Oakland County is influenced by nearby Lake St. Clair. The average daily temperature is 48.5°F. The lowest average daily temperature is 16.1°F in January. The highest average daily temperature is 83.1°F in July (DOC, 1968).

The total annual precipitation for the county is 32 inches. The mean annual lake evaporation for the area is about 30 inches. The 1-year, 24-hour maximum rainfall is about 2.2 inches (DOC, 1963). The prevailing wind is from the southwest. The average wind speed is 10.3 miles per hour (NOAA, 1989).

2.6.2 Flood Plain and Surface Water

The GMC facility is about 1,500 feet north of Harris Lake; 1,600 feet northeast of Terry Lake; and 3,500 feet east of Asmun Lake. These lakes are used for recreational purposes. The facility NPDES permitted outfalls discharge to Harris and Terry Lakes. The facility is located in the Clinton River Drainage Basin. Clinton River is about 1.25 miles southeast of the facility and flows east where it discharges into Lake St. Clair, located about three miles east of the facility. The facility is not within the 100-yr flood plain. Clinton River is used for recreational purposes.

2.6.3 Geology and Soils

The geology and soils beneath the GMC facility consist of unconsolidated deposits of the Pleistocene Epoch overlying bedrock. The unconsolidated deposits are water-laid moraines and outwash glacial channels consisting of sand and clay (WMU, 1981). Boring logs from five on-site borings show that alternating sand and sandy clay units extend from the ground surface to about 25 feet below ground surface. The sand consists of brown fine-to-medium-grained sand, and the sandy clay consists of firm brown sandy clay with some pebbles.

Oakland County is in the Lake Erie Basin, and bedrock consists of early Mississippian aged Marshall Formation Sandstone overlying Coldwater Shale and underlying about 200 feet of unconsolidated deposits. The thickness of the Marshall Formation Sandstone is about 300 feet, and the thickness of the Coldwater Shale is about 1,300 feet.

2.6.4 Ground Water

According to facility boring logs, groundwater beneath the GMC facility is about 19 feet below ground surface. However, no other site-specific ground-water information is available. The following paragraphs discuss the regional ground-water setting for Oakland County.

The Pleistocene Epoch glacial drift aquifers in Oakland County consist of interbedded aquifers, aquicludes, and aquitards. The aquifers are usually unconfined at or near the ground surface. Ground water in the glacial drift aquifers are generally of "good" drinking water quality,

but hard. Wells with a diameter of 10 inches or more can yield more than 500 gpm. Chemical analysis of glacial drift ground water in Oakland County shows about 300 milligrams per liter (mg/L) total dissolved solids, about 30 mg/L chloride, and a specific conductance of 600 μmhos per centimeter.

The Mississippian aged bedrock aquifer system in Oakland County includes the Marshall and Michigan Formation Sandstone overlying Coldwater Shale. Chemical analysis of bedrock ground water in Oakland County show about 150,000 mg/L total dissolved solids; about 75,000 mg/L chloride; and a specific conductance of 756 μmhos per centimeter. Less than 10 percent of the 16,942 ground-water wells in Oakland County are completed in bedrock.

Oakland County water supplies come from neighboring Wayne County and the City of Detroit, Lake Erie.

2.7 RECEPTORS

The GMC facility occupies about 71 acres in a mixed use area in Pontiac, Michigan. Pontiac has a population of about 70,000 people. The nearest residence is 1,500 feet southwest of the facility.

The GMC facility is bordered by GMC and CPC automobile manufacturing plants and Pontiac Motor Company offices on the northeast, east, and southeast. The nearest school, Lincoln School, is about 2,000 feet southwest of the facility. Facility access is controlled by fences, a guard house, and 24-hour security guards.

The GMC facility is about 1,500 feet north of Harris Lake; 1,600 feet northeast of Terry Lake; and 3,500 feet east of Asmun Lake. The nearest wetland areas surround these three lakes, and are about 4,000 feet west of the facility. There are no ground-water drinking or industrial use wells within three miles of the facility. The facility and neighboring area obtain their drinking water from the City of Detroit, Lake Erie.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the 11 SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and PRC observations. Figure 2 shows the SWMU locations.

SWMU 1	**Satellite Accumulation Area**
Unit Description:	This unit is located in the basement of the facility's powerhouse. It consists of one 55-gallon drum accumulating waste paint thinner (F003 and F005). The drum is closed and is situated on a concrete floor.
Date of Startup:	This unit began operations in August 1988, when GMC idled the plant.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	This unit manages waste paint thinner (F003 and F005).
Release Controls:	This unit is located within a building on a concrete floor. No other release controls exist.
History of Documented Releases:	No known releases have occurred from this unit.
Observations:	At the time of the VSI, the unit held one 55-gallon drum accumulating waste paint thinner (F003 and F005). The drum was closed and in good condition. No signs of release were present (see Photograph No. 2).
SWMU 2	**Waste Gasoline Accumulation Area**
Unit Description:	This unit is in the facility maintenance area in the old assembly building. It consists of one 55-gallon drum of waste gasoline (D001). The drum is closed and situated on a concrete floor.

Date of Startup:	This unit began operations in August 1988, when GMC idled the plant.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	This unit manages waste gasoline (D001).
Release Controls:	This unit is located within a building on a concrete floor. No other release controls exist.
History of Documented Releases:	No known releases have occurred from this unit.
Observations:	At the time of the VSI, the unit held one 55-gallon drum accumulating waste gasoline (D001). The drum was closed and in good condition. No signs of release were evident (see Photograph No. 10).
SWMU 3	**Container Storage Area**
Unit Description:	This unit was a less than 90-day container storage area located outdoors on the south side of the storage dock. The dimensions of the unit are about 65 by 95 feet, with a concrete pad 8 inches thick. The maximum capacity is 380 55-gallon drums. This unit was constructed to replace the Closed Container Storage Area (SWMU 4).
Date of Startup:	This unit began operating in July 1986.
Date of Closure:	The facility submitted a closure plan for both SWMU 3 and 6 to MDNR on April 28, 1988. MDNR approved this plan on October 31, 1988. The facility began closure activities on May 9, 1989. The facility cleaned and decontaminated the concrete pad, the collection sump, and the trench and piping. The facility submitted a revised closure plan summarizing activities on September 12, 1990. The facility has not submitted closure certification for SWMU 3 and 6, therefore closure has not been approved.

Wastes Managed:	This unit managed ignitable waste gasoline (D001), chlorinated solvents (F001), and various paint wastes (F003 and F005).
Release Controls:	This unit is situated on a concrete pad. The concrete joints are sealed, and any spills are routed through a collection sump to the facility's wastewater treatment plant located in the adjacent CPC facility under a different EPA ID number. The area has 1- to 4-foot concrete berms. However, one portion of the Container Storage Area is not bermed.
History of Documented Releases:	In August 1989, the concrete pad of this unit was cored at 20-foot intervals. The corings extended to a depth of 2.6 feet below the pad. Several samples exceeded background levels for arsenic, barium, cadmium, mercury, nickel, selenium and zinc. Several organic compounds were also detected above detection limits, including 1,1,1-trichloroethane; 1,1,2,2-tetrachloroethane; and 1,1-dichloroethane.
Observations:	At the time of the VSI, the Container Storage Area was empty. Two waste oil tanks are in the area of the Container Storage Area. These have never been used, and were also empty. The Container Storage Area was clean, and no signs of release existed (see Photographs No. 6 and 7).
SWMU 4	**Closed Container Storage Area**
Unit Description:	This unit was a greater than 90-day container storage area outside the facility buildings in the southwest driveway adjacent to the railroad tracks. The Container Storage Area was used to store scrap sealers, adhesives, paint thinners, and waste solvents. The unit was situated on a diked concrete pad and had a maximum capacity of 370 55-gallon drums.
Date of Startup:	According to facility personnel, this unit started operating sometime before 1977.

Date of Closure:	The facility stopped using the Container Storage Area on August 15, 1985. The facility began closure activities before notifying EPA and before submitting a closure plan. The facility removed all 37 containers, and placed them in a temporary storage area in the High Pressure Fly Ash Silo (SWMU 10). The facility removed visible residue from the concrete pad, swept the area, and washed it down with detergent and water. Wastewater was collected and transferred to the wastewater treatment plant located at the adjacent CPC facility operating under a different EPA ID number. The facility broke the concrete pad and disposed of it at a licensed landfill. According to the facility, no evidence of stained soil existed beneath the concrete. The area was then repaved with concrete for use as a driveway. The facility submitted a closure plan for this unit in April 1986, and closure certification on November 4, 1986. MDNR certified this unit clean closed in a letter dated February 3, 1988.
Wastes Managed:	This unit managed ignitable waste gasoline (D001), chlorinated solvents (F001), and various paint wastes (F003 and F005).
Release Controls:	According to the facility closure plan, the Container Storage Area was properly diked and situated on an integral concrete pad. However, the Container Storage Area was dismantled and removed. No documentation of any release controls exists.
History of Documented Releases:	The facility took eight soil samples, four of them background from the area surrounding the unit. Sampling results showed soils to exceed EP toxicity levels for zinc, chromium, barium, and lead.
Observations:	At the time of the VSI, the approximate area of this unit was paved over and used as a driveway. No signs of release were evident (see Photograph No. 8).
SWMU 5	**Former Wastewater Treatment Plant**
Unit Description:	At the time of the VSI, facility personnel could not give PRC any information regarding the operation and description of this unit.

According to facility personnel, any persons employed during the operation of this unit are no longer available. The facility supplied PRC with a schematic diagram of this unit after the VSI. PRC interpreted this schematic diagram. The unit's first process involved a gravity and flotation grit chamber that removed heavy particles from wastewater. Wastewater was then routed to a settling basin that settled out heavier inorganic compounds. Sludge from this process was then routed to one of two mixing tanks in a parallel system. The first mixing tank combined aluminum sulfate, calcium hydroxide, and city water with the wastewater. The second combined a coagulant aid (probably a polymer) and city water with the wastewater. After being mixed in one of two mixing tanks, the slurry was routed to two parallel clarifiers and mixed with sewage. Water from the clarifiers was discharged to the city sewer, and the sludge (probably 2 to 5 percent solids) was routed to two parallel sludge settling tanks. Sludge from the tanks (probably 5 to 7 percent solids) was then routed to two vacuum filters. Solids from the vacuum filters (probably 20 to 30 percent solids) were drummed, and the remaining water was rerouted to the clarifiers. The settling basin had a capacity of 293,8000 gallons, the chemical feed and coagulent feed tanks each had capacities of 1,270 gallons, and the sludge settling tanks each had capacities of 35,700 gallons.

Date of Startup:	This unit began operation in July 1973
Date of Closure:	This unit ceased operations and was removed in 1983.
Wastes Managed:	This unit managed wastewater, wastewater treatment sludge, paint sludge, and bonderite sludge.
Release Controls:	The actual construction of the tanks and containment is unknown. The unit was removed from the facility, and facility personnel are unaware of the design of any release controls.
History of Documented Releases:	No known releases have occurred from this unit.

Observations:	At the time of the VSI, the unit was no longer present. The area where the unit was has been paved over and is used as a driveway. No evidence of a release was apparent (see Photograph No. 9).
SWMU 6	**Purge Thinner Underground Storage Tank**
Unit Description:	This unit was north of the assembly building. The tank was constructed of steel, was 20 feet, 6 inches long and 10 feet, 6 inches in diameter. The tank had a capacity of 12,000 gallons and was installed 3 feet below ground surface.
Date of Startup:	According to facility personnel, this unit began operating before 1977.
Date of Closure:	The facility submitted a closure plan for both SWMU 3 and 6 to MDNR on April 28, 1988. MDNR approved this plan on October 31, 1988. The facility began closure activities on May 9, 1989. The facility pressure cleaned the tank, and the tank was removed in conjunction with the removal of three product underground storage tanks. The facility submitted a revised closure plan summarizing activities on September 12, 1990. GMC is awaiting closure approval.
Wastes Managed:	This unit managed spent purge thinner (F005).
Release Controls:	This single-walled tank was supported underground with 15-inch-thick reinforced concrete and secured with steel cables.
History of Documented Releases:	During the excavation of this unit, solvent odors were detected in the surface soils. Contaminated soils were retained on-site in three roll-off boxes. Soil samples indicated low levels of VOCs. In August 1989, four soil borings were advanced to a depth of 15 feet below the excavation. Several of the soil samples exceeded background levels for arsenic, cadmium, copper, lead, mercury, nickel, and zinc. The facility has not submitted closure certification for SWMU 3 and 6, therefore closure has not been approved.

Observations:	The area of the underground storage tank was clean but snow-covered during the VSI. No signs of a release existed.
SWMU 7	**Wastewater Collection Sump**
Unit Description:	This unit is in the basement of the facility's power house. The unit consists of an enclosed collection sump for any wastewater generated at the GMC facility. However, wastewater is routed from the sump to a wastewater treatment plant at an adjacent GMC facility operating under a different EPA identification number.
Date of Startup:	This unit began operations in July 1973.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	This unit manages wastewater and spills generated throughout the facility. The unit is connected to outdoor collection drains of the Container Storage Area (SWMU 3), and to floor drains throughout facility buildings.
Release Controls:	The unit is covered and enclosed under the concrete floor in the basement of the powerhouse building.
History of Documented Releases:	No known releases have occurred from this unit.
Observations:	This unit was inactive and in good condition during the VSI. No evidence of a release existed (see Photograph No. 1).
SWMU 8	**Paint Sludge Storage Area**
Unit Description:	This unit is outdoors on the north edge of the facility, north of the paint mixing building. This unit consists of a concrete pad covered by a metal gondola roof. The dimensions of this unit are about 12 by 24 feet.

Date of Startup:	According to facility personnel, this unit began operation sometime before to 1983.
Date of Closure:	This unit ceased operations in August 1988, when the GMC facility idled.
Wastes Managed:	This unit managed nonhazardous paint sludge and sludge from filtering waste bonderite prior to wastewater treatment.
Release Controls:	This unit is situated on a grated concrete pad. No berms surround this unit. However, any spills would have been routed to the former Wastewater Treatment Plant (SWMU 5). The unit is covered by a metal gondola roof, but is open to the atmosphere on all sides.
History of Documented Releases:	No known releases have occurred from this unit.
Observations:	This unit was empty except for some picnic tables during the VSI. The concrete was in good condition, and no evidence of a release was apparent.
SWMU 9	**Temporary Container Storage Area**
Unit Description:	This unit was east of the power house. The unit was constructed as a temporary container storage area to hold containers from the closed Container Storage Area (SWMU 4) during its closure. No information is available regarding the dimensions, capacity, or construction of this temporary area.
Date of Startup:	This unit began operation on August 15, 1985.
Date of Closure:	This unit ceased operation in July 1986.
Wastes Managed:	This unit managed ignitable waste gasoline (D001), chlorinated solvents (F001), and various paint wastes (F003 and F005).

Release Controls:	The facility referred to this area as a "contained" temporary storage area in a letter from GMC to EPA dated August 22, 1986. However, no evidence of any release controls exists.
History of Documented Releases:	No known release has occurred from this unit.
Observations:	The area where this unit was located was snow-covered during the VSI, and no evidence of a release was apparent.
SWMU 10	**High Pressure Fly Ash Storage Silo**
Unit Description:	This unit is outdoors on the east side of the facility power house. This unit consists of one radial concrete silo to store high pressure fly ash from the power plant. The capacity of this unit is between 500 and 600 tons.
Date of Startup:	This unit began operation in 1985.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	This unit manages nonhazardous, high pressure coal fly ash.
Release Controls:	This unit is closed-topped and outdoors on concrete. When trucks are filled with fly ash by a valve on the silo, the fly ash is watered down to reduce dust. However, no other release controls exist.
History of Documented Releases:	No known releases have occurred from this unit.
Observations:	This unit was in good condition during the VSI, and no evidence of a release was apparent (see Photograph No. 3).
SWMU 11	**Low Pressure Fly Ash Storage Silos**
Unit Description:	This unit is outdoors on the east side of the facility power house. This unit consists of two radial brick silos to store low pressure fly

	ash from the power plant. The capacities of these silos are between 250 and 300 tons each.
Date of Startup:	This unit began operation in the 1940s.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	This unit manages nonhazardous, low pressure coal fly ash.
Release Controls:	This unit is closed-topped and outdoors on concrete. Trucks are filled with fly ash by a valve on the silos. Low pressure fly ash does not produce much dust; therefore, it is not watered down. No other release controls exist.
History of Documented Releases:	No known releases have occurred from this unit.
Observations:	This unit was in good condition during the VSI, and no evidence of a release was apparent (see Photograph No. 4).

4.0 AREAS OF CONCERN

PRC identified no AOCs during the PA/VSI.

REFERENCES

GMC Pontiac Fjero Plant (GMC), 1980a. U.S. Environmental Protection Agency (EPA) Notification of Hazardous Waste Activity, August 8.

GMC, 1980b. U.S. EPA Part A Permit Application, November 11.

GMC, 1983. GMC RCRA Inspection Response Letter to Michigan Department of Natural Resources (MDNR), August 25.

GMC, 1985. Revised EPA Part A Permit Application, June 27.

GMC, 1986a. GMC RCRA Inspection Response Letter to MDNR, January 10.

GMC, 1986b. Revised EPA Part A Permit Application, February 21.

GMC, 1986c. GMC Closure Plan, April 24.

GMC, 1987a. GMC RCRA Inspection Response Letter to MDNR, June 22.

GMC, 1987b. Revised EPA Part A Permit Application, November 4.

GMC, 1990. Part A Closure Document, September 12.

GMC, 1991a. GMC RCRA Inspection Response Letter to MDNR, February 12.

GMC, 1991b. GMC National Pollutant Discharge Elimination System (NPDES) Noncompliance Letter to MDNR, November 11.

GMC, 1992. GMC Air Noncompliance Letter to MDNR, January 2.

MDNR, 1982. RCRA Inspection Report, May 13.

MDNR, 1983a. RCRA Inspection Report, July 18.

MDNR, 1983b. RCRA Inspection Letter to GMC, July 29.

MDNR, 1983c. RCRA Inspection Response Letter Approval, September 2.

MDNR, 1985. RCRA Inspection Letter to GMC, December 18.

MDNR, 1986. RCRA Inspection Response Letter Approval, March 7.

MDNR, 1987. RCRA Inspection Letter to GMC, May 26.

MDNR, 1990. RCRA Inspection Letter to GMC, May 21.

MDNR, 1991. RCRA Inspection Letter to GMC, January 31.

National Oceanic and Atmospheric Administration, 1989. Local Climatological Data, Detroit Metropolitan Airport, Michigan.

U.S. Department of Commerce (DOC), 1963. Climatic Atlas of the United States, U.S. Government Printing Office, Washington, D.C.

U.S. Department of Commerce (DOC), 1968. Climatic Atlas of the United States, U.S. Government Printing Office, Washington, D.C.

U.S. Geological-Service, (USGS), 1983. Topographic Map of 7.5 Minute Quadrangle of the City of Pontiac, Oakland County, Michigan.

Western Michigan University (WMU), 1981, Hydrogeologic Atlas of Michigan, Department of Geology, Kalamazoo, Michigan.

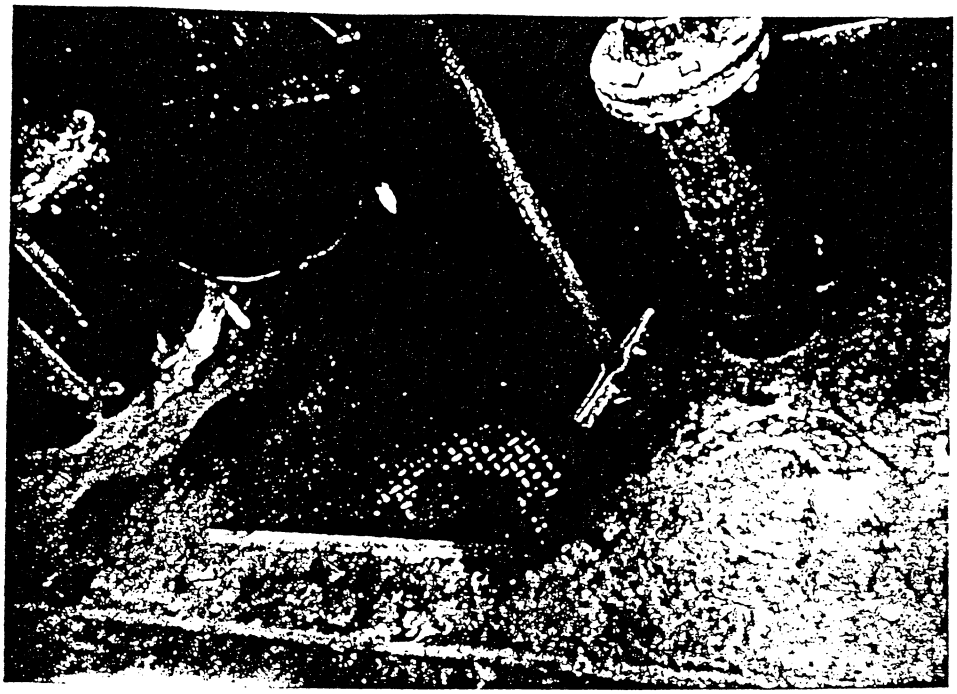
ATTACHMENT A

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

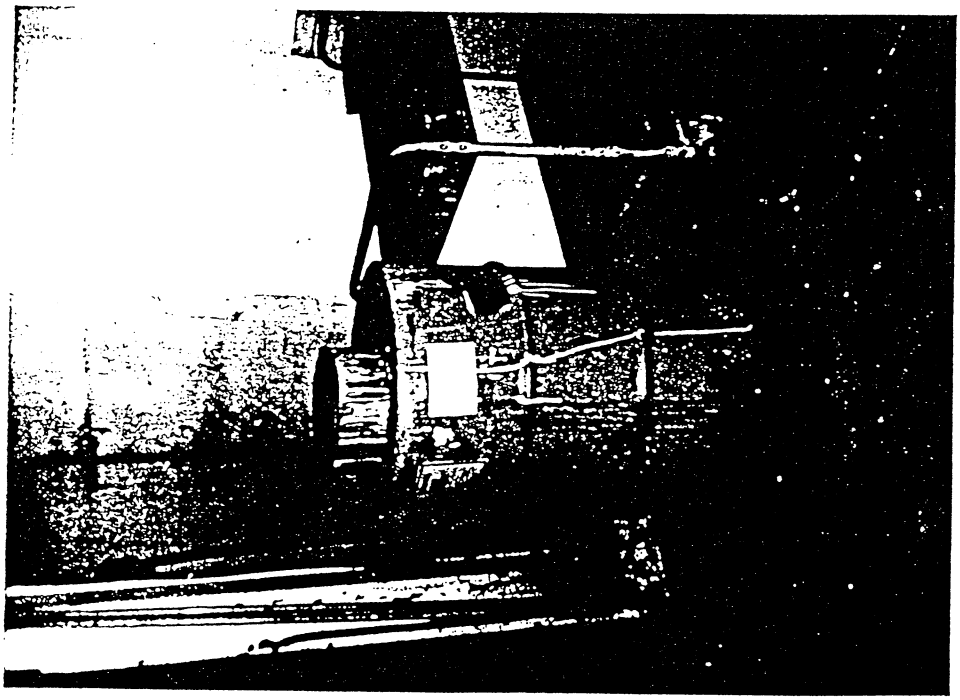
VISUAL SITE INSPECTION SUMMARY

GMC Pontiac Fiero Plant
900 Baldwin Street
Pontiac, Michigan
MID 005 356 910

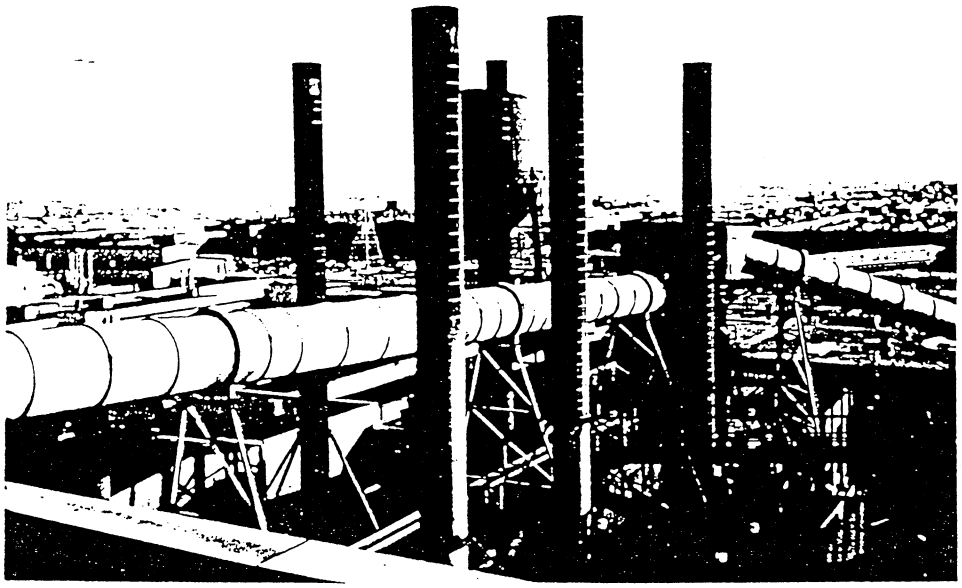
Date:	February 6, 1992
Facility Representatives:	Gary L. Hart, GMC General Supervisor, Manufacturing Lab David E. Rugg, GMC Senior Environmental Engineer Ed Bohnsack, GMC Senior Manufacturing Engineer Dale G. Gossiaux, GMC Senior Industrial Hygienist/Environmental Engineer Dallas Geisler, Senior Environmental Engineer
Inspection Team:	Deb Harrity, PRC Environmental Management, Inc. (PRC) Kevin Schnoes, PRC
Photographer:	Deb Harrity
Weather Conditions:	Sunny and cold; about 30°F
Summary of Activities:	The visual site inspection (VSI) began at 8:50 a.m., Central Standard Time, with an introductory meeting with facility representatives. The meeting addressed questions regarding past and current facility operations, waste generation processes, solid waste management units (SWMU), and regulatory status. Facility personnel explained closure activities and permitted releases. At 10:00 a.m., facility and PRC personnel began a tour of the facility. PRC inspected all past and current SWMUs. At 11:20 a.m., the tour concluded with a short exit meeting. The VSI was completed at 11:40 a.m.



Photograph No. 1 Location: SWMU 7
Orientation: North Date: 2/6/92
Description: Wastewater Collection Sump for the wastewater treatment plant on adjacent CPC property

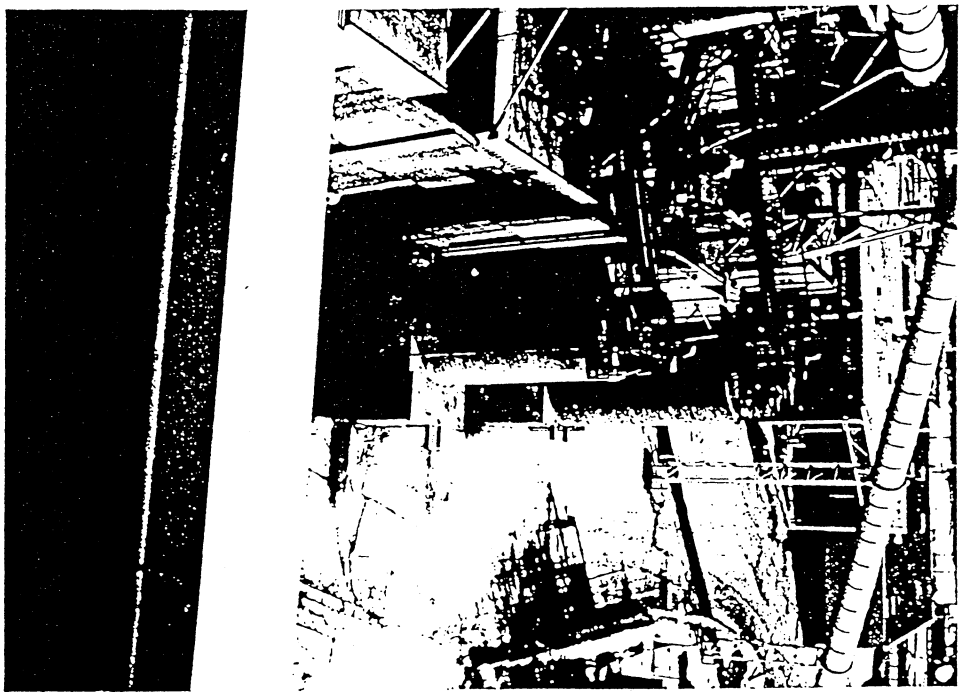


Photograph No. 2 Location: SWMU 1
Orientation: Northwest Date: 2/6/92
Description: Satellite Accumulation Area (one 55-gallon drum) for F003 and F005 paint waste



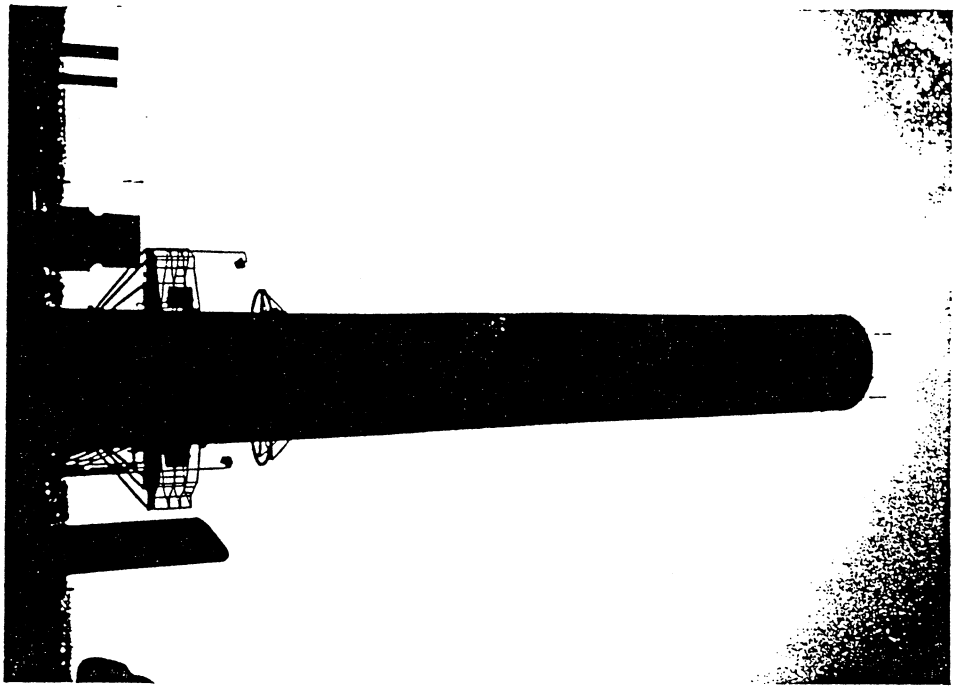
Photograph No. 3
Orientation: Southeast
Description: High Pressure Fly Ash Storage Silo

Location: SWMU 10
Date: 2/6/92



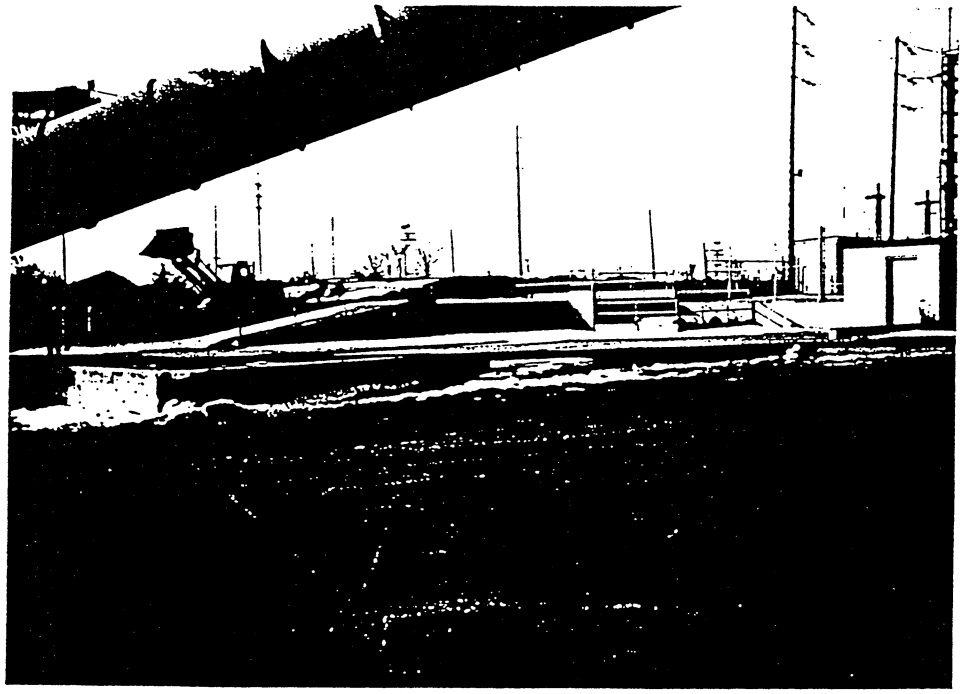
Photograph No. 4
Orientation: East
Description: Low Pressure Fly Ash Storage Silo

Location: SWMU 11
Date: 2/6/92



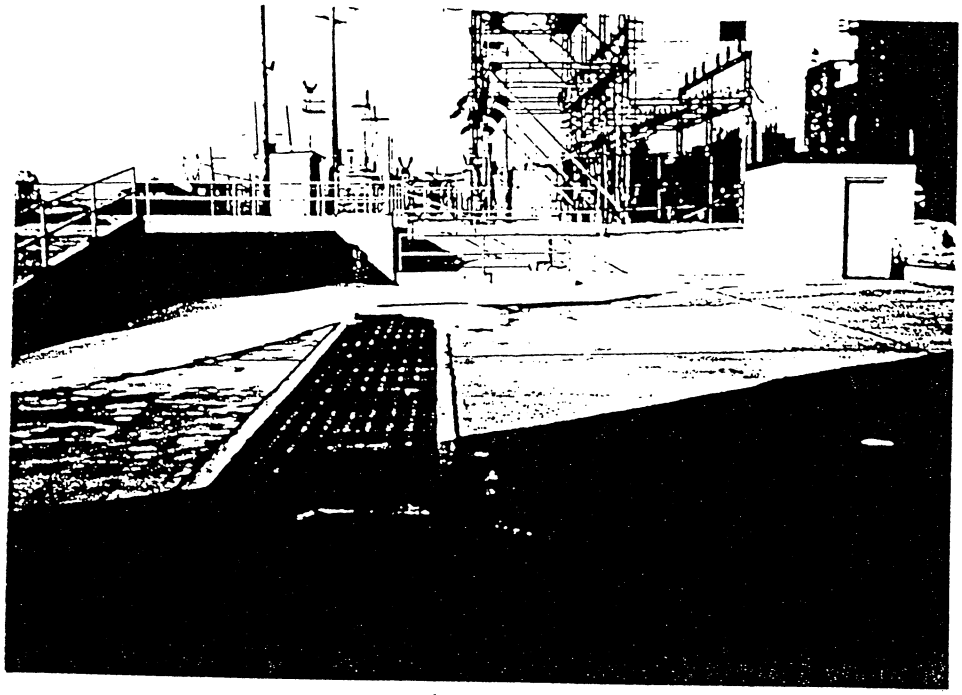
Photograph No. 5
Orientation: North
Description: Air emissions stack for facility power plant.

Location: NA
Date: 2/6/92



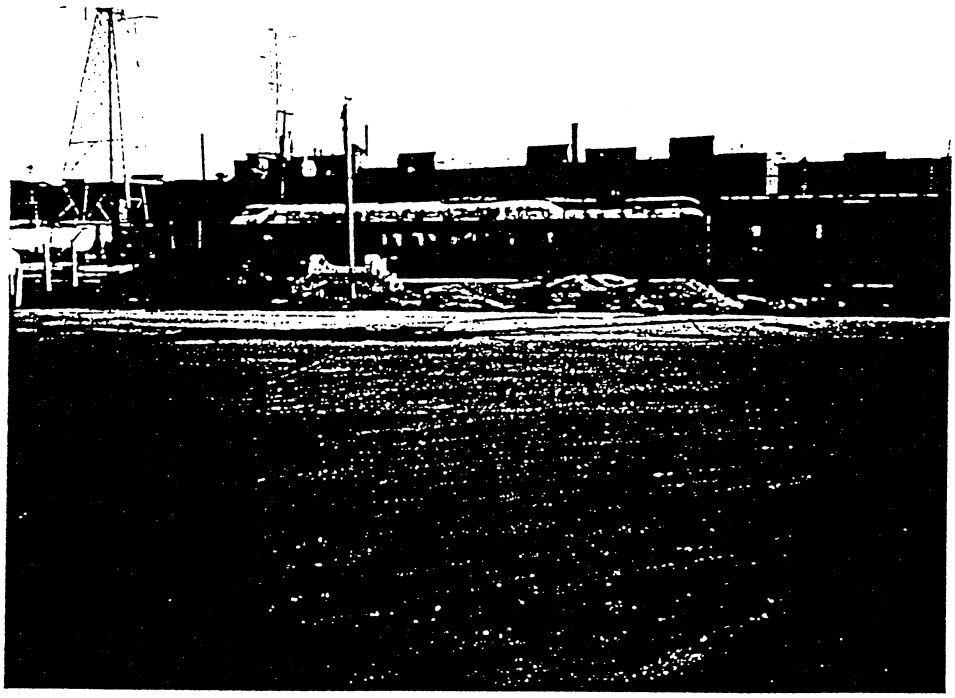
Photograph No. 6
Orientation: Southwest
Description: Container Storage Area

Location: SWMU 3
Date: 2/6/92



Photograph No. 7
Orientation: West
Description: Container storage area

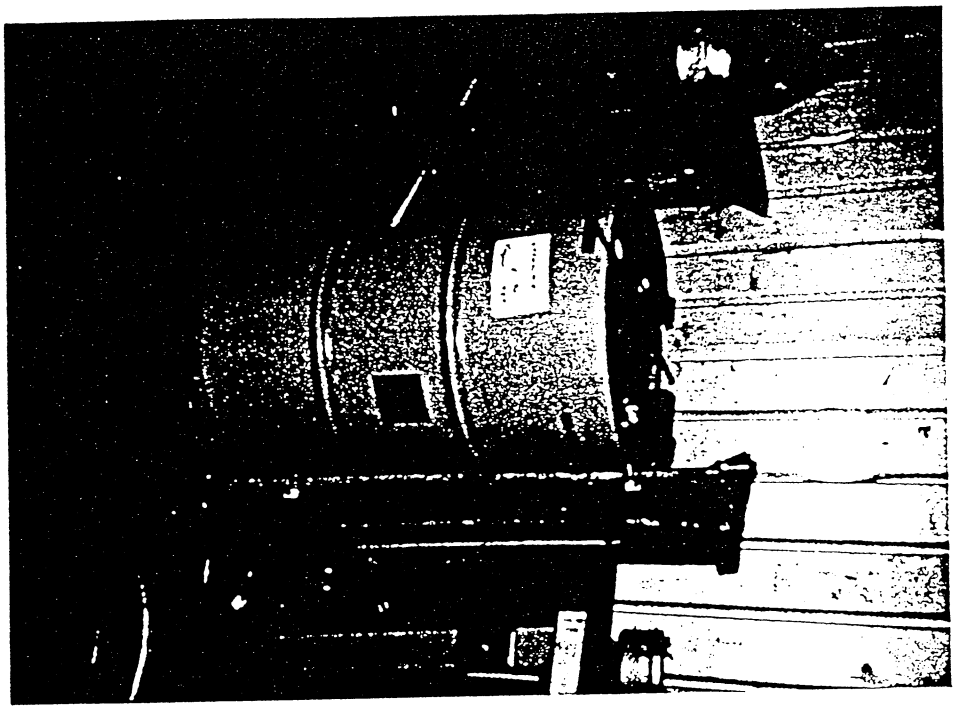
Location: SWMU 3
Date: 2/6/92



Photograph No. 8
Orientation: East
Description: Closed Container Storage Area

Location: SWMU 4
Date: 2/6/92

Photograph No: 9 Location: SWMU 5
Orientation: West Date: 2/6/92
Description: Approximate area of Former Wastewater Treatment Plant



Photograph No. 10 Location: SWMU 2
Orientation: West Date: 2/6/92
Description: Waste Gasoline Accumulation Area (one 55-gallon drum) managing D001 waste

ATTACHMENT B

VISUAL SITE INSPECTION FIELD NOTES

Gary L. Hart
General Superviso
Manufacturing Lab
Mail Code 491S

Chevrolet-Pontiac-Canada Group
Pontiac Manufacturing Operations
General Motors Corporation
One Pontiac Plaza
Pontiac Michigan 48053

(313) 857-2485

Ed Bohnsack
Sr. Manufacturing Engineer

Chevrolet-Pontiac-Canada Group
Pressed Meta
General Motors Corporation
One Pontiac Plaza
Pontiac Michigan 48340-2952

(313) 857-4565

David E. Rugg
Sr. Environmental Engineer

Chevrolet-Pontiac-Canada Group
Pontiac Manufacturing Operations
General Motors Corporation
One Pontiac Plaza
Pontiac Michigan 48053
Mail Code M11C

(313) 857-0421

Dale G. Gossiaux
Sr. Mgr. Env. Eng.

Chevrolet-Pontiac-Canada Group
Pontiac Operations
General Motors Corporation
One Pontiac Plaza
Pontiac Michigan 48340-2952
Mail Code 49-6

(313) 857-0660 E 237-0660

2/6/92 Sunny, 30s
CPC Group / GMC Pontiac - Fiero
Arrive @ CPC Inc. Plant
PRC Ryan Schwarz, Dub Hewitt
CPC - Gary Hart, Ed Bohnsack,
David Rugg, Dale Gossiaux

0850

Initial Meeting
Facility Tour begin about 9:00 a.m.
June 1988
Remaining machining operations for Fiero
Preparation for Inhibition
Dub explained purpose of visit
Plant Built in 1920's,
Fiero operations from 1984
to 1988 (August)
June 1988, plant closed
began operations Summer 1988
Estimated will spend up to one hour
touring plant 10:15

(102)

Facility finally closed in 1991

Powerhouse supplies air, steam & electricity for CPC & adjacent (east) facility.

Currently have one accumulation area for maintenance supplies (ex. paint), one drum for gas when fixing trucks

Currently going through closure of current drum storage area → currently empty

Current wastes moved directly from satellite accumulation area

K. Sokirka 2/6/92

(103)

WWTP in area of former DSA → now removed.

1 UST excavated → going through closure → spent purge thinner

3 product tanks also Xylene, virgin purge thinner Selvasol acetate

Tanks pulled & sampled in Spec most likely 10,000 & 15,000

Minor contamination @ DSA

Any waste water treated now in treated in WWTP on east side (CPC Manufacturing) → collection tank for ww @ Finish site → sent to WWTP & send to POTW

Paint

Pychromatic & Hoffman sludge system → Sludge stored in outdoor area in NE corner

K. Sok. 2/6/92

(104)

Current has NPDES permit for storm water runoff → ten out of compliance in last 2 years → dug & galvanized roofing & copper gutters → Coated & eliminate source of pollution (90% of coating done) → have been in compliance for last 2.5 months

Zn 1000
TCE

Two current air permits for power plant → daily monitoring of stack

Received copies of air permits

Area is on city water

1.7 million sq ft

Area fenced, security guards

K. Schroeder
2/10/92

SWMUs

(105)

- ✓ SAA
- ✓ Waste oil drum
- ✓ Current DSA
- ✓ Old DSA
- ✓ Old WWTP
- ✓ UST's
- ~~Basement of power house~~
- ~~Maintenance air~~
- ✓ Collection sump
- ✓ Paint Sludge

Fly Ash Stack

1000 Begin VSI - EPC will take their own photos @ same locations as PRC's

Photo 1 (North)

Collection sump, covered w/ plate

Photo 2 (NW)

Waste paint drum, sealed

K. Schroeder 2/10/92

Meet w/ ~~Bob~~ FS Nelles Ford @ power plant.
Received info on air permits
CPC notifies Sandy Mc Grue of MDNR of any violations
Never had violation on opacity
Ash unloaded directly from silos

Photo 3 (SE)
High Press Stack for power plant

Photo 4 (East)
Low Press Ash Silo for power plant

Photo 5
Emission stacks

Photo 6, 7 (SW, West)
Current storage pad undergoing closure, empty, bermed.
Contains 2 tanks for waste oil that were never used

K. Schnee 2/10/92

Grates in floor of pad & collect any spillage → routed to collection sump in power plant & sent to WWTP
Pad appears in good condition
Berings for closure reinforced concrete block

Photo 8 (East)
Approx location of old fly drum storage area
Paved over

Photo 9 (East)
Approx location of old WWTP

Photo 10 (West)
~~Old~~ Old Waste Drum

K. Schnee 2/10/92

Photo 11 (North)
Location of USTs → now removed, snow covered

Photo 12, 13 (North)
Paint Sludge Storage Area, now empty
Grating to collect spillage
Area covered, cement floor → no cracks

1120 End VSI

Begin wrap up meeting
Deb listed material that CPC will be sending
Also explained how facilities are ranked

1140 Leave site

K. Schnors 2/16/92

Kevin Schnors 2/16/92

A-2

Chevrolet-Pontiac-Canada Group
Pontiac Engine & Axle Operations
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48053

February 27, 1986

United States E.P.A.
R.C.R.A. Activities
Region V
P.O. Box A3587
Attention ATKJG
Chicago, IL 60690

Gentlemen:

Enclosed, please find the completed survey on the "Certification Regarding Potential Releases from Solid Waste Management Units" for the C.P.C. - Pontiac Facility of General Motors Corporation, MID005356886.

If there are any questions regarding the information, please contact the writer at (313)-857-2287.

Sincerely,

Dale G. Gossiaux

Dale G. Gossiaux
Sr. Environmental Engineer
Plant Engineering - Design

enclosure

cc: R.L. Kieft
L. Moody - G.M. Legal
W. Collinson - G.M. E.A.S.
L. Minkwic - C.P.C. Staff

CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: C.P.C. - PONTIAC OF GENERAL MOTORS

EPA I.D. NUMBER: MID 005356886

LOCATION CITY: PONTIAC

STATE: MICHIGAN

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTE UNITS CURRENTLY SHOWN IN YOUR PART A APPLICATION

	YES	NO
° Landfill	X	
° Surface Impoundment		X
° Land Farm		X
° Waste Pile	X	
° Incinerator		X
° Storage Tank (Above Ground)		X
° Storage Tank (Underground)	X	
° Container Storage Area		X
° Injection Wells		X
° Wastewater Treatment Units	X	
° Transfer Stations		X
° Waste Recycling Operations		X
° Waste Treatment, Detoxification		X
° Other _____		

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions and location at facility. Provide a site plan if available.

A) LANDFILL: SEE ATTACHMENT A-1 AND A-2

B) WASTE PILE: SEE ATTACHMENT B

C) STORAGE TANK (UNDERGROUND): SEE ATTACHMENT C

D) WASTEWATER TREATMENT UNITS: SEE ATTACHMENT D

NOTE: Hazardous wastes are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part A application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or may still be occurring.

   Please provide the following information

   a. Date of release
   b. Type of waste released
   c. Quantity or volume of waste released
   d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

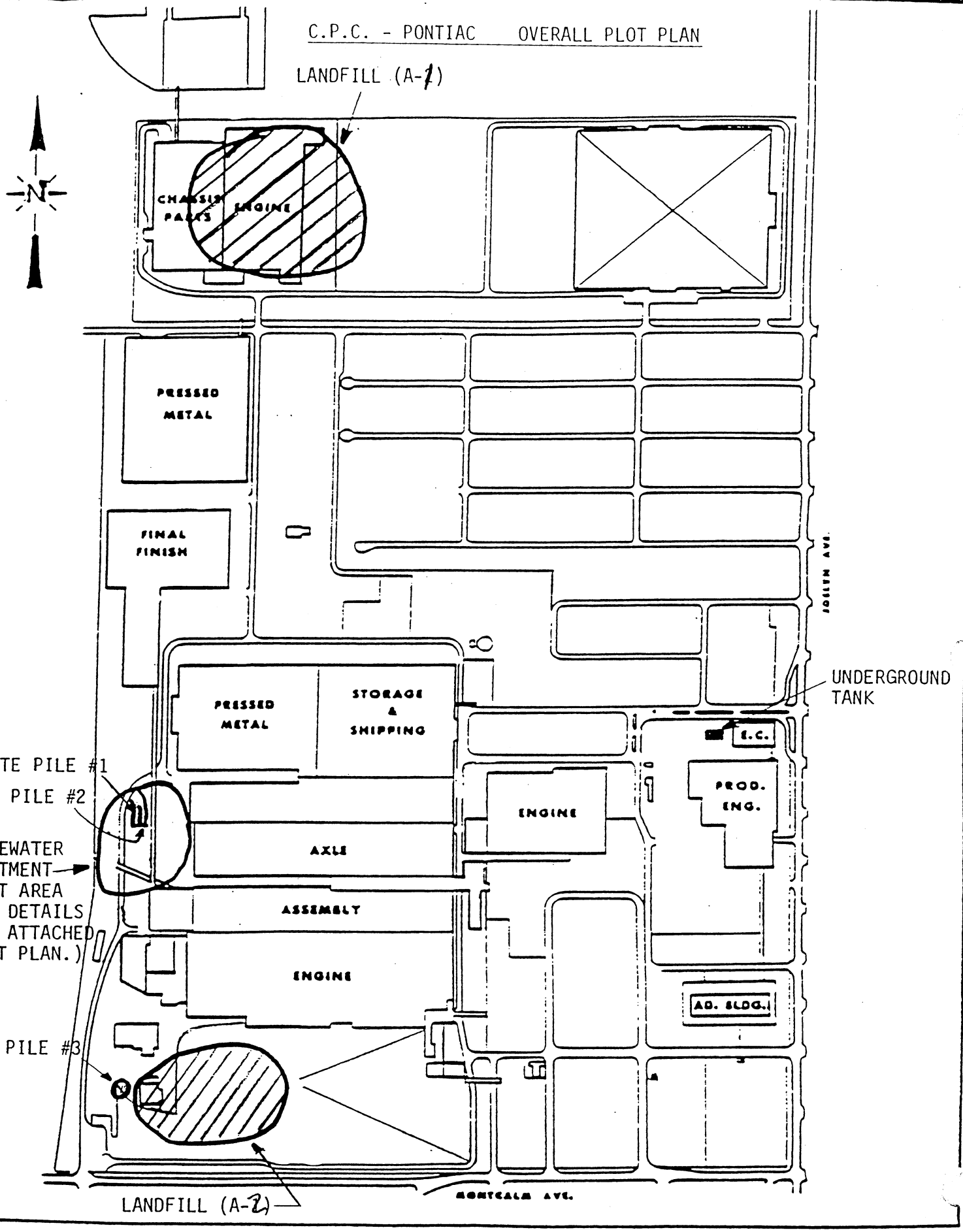
SEE ATTACHMENT E

4. In regard to the prior or continuing releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

SEE ATTACHMENT F

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnell properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Typed Name and Title	Signature	Date
James B. Darnell, Mgr. Engine Ops	James B Darnell	2/22/86
Donald W. Ableson, Mgr. G - Car & Pressed Metal	Donald W. Ableson	2/27/86


C.P.C. - PONTIAC OVERALL PLOT PLAN
LANDFILL (A-1)
N
CHASSIS PARTS
ENGINE
PRESSED METAL
FINAL FINISH
PRESSED METAL
STORAGE & SHIPPING
ENGINE
AXLE
ASSEMBLY
ENGINE
E.C.
PROD. ENG.
AD. BLDG.
JOLLEN AVE.
UNDERGROUND TANK
WASTE PILE #1
STE PILE #2
ASTEWATER REATMENT LANT AREA FOR DETAILS SEE ATTACHED PLOT PLAN.)
STE PILE #3
LANDFILL (A-2)
MONTCALM AVE.

EPA Notification of Hazardous Waste Site

ATTACHMENT A1

Environmental Protection Agency
Washington DC 20460

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

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

Person Required to Notify:

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

Name G.M.C. Pontiac Motor Division

Street One Pontiac Plaza or

City Pontiac State Michigan Zip Code 48053

Site Location:

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

Name of Site Pontiac Motor Division

Street One Pontiac Plaza

City Pontiac County Oakland State Mich. Zip Code 48053

Person to Contact:

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

Name (Last, First and Title) CUNNINGHAM, MICHAEL A., ASST. SUPT.,PLT.ENG. DESIGN

Phone (313) 857-1115

Dates of Waste Handling:

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

From (Year) 1926 To (Year) 1979

Waste Type: Choose the option you prefer to complete

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

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

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

_____

_____

_____

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

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ■ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinis
16. ☐ Lab/Hosp tal
17. ☐ Unknov
18. ■ Other (Specify)

Automobile Assembly Operations

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

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

rm Approved
MB No. 2000-0138
A Form 8900-1

EPA Notification of Hazardous Waste Site

ATTACHMENT A2

United States
Environmental Protec
Agency
Washington DC 2046

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

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

A Person Required to Notify:

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

Name: G.M.C. Pontiac Motor Division
Street: One Pontiac Plaza
City: Pontiac State: Michigan Zip Code: 48053

B Site Location:

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

Name of Site: GMC CFD PONTIAC
Street: 1 Pontiac Plaza
City: Pontiac County: Oakland State: MI Zip Code: 48053

C Person to Contact:

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

Name (Last, First and Title): CUNNINGHAM, MICHAEL A., ASST. SUPT.,PLT.ENG DEST
Phone: (313) 857-1115

D Dates of Waste Handling:

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

From (Year): 1926 To (Year): 1979

E Waste Type: Choose the option you prefer to complete

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

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

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

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

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

Option 2: This option is available to persons familiar with th Resource Conservation and Recovery Act (RCRA) Section 3C regulations (40 CFR Part 261).

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

Form Approved
CMB No. 2000-0138
EPA Form 8900-1

ATTACHMENT B

WASTE PILE #1

Description of Waste:	Water treatment sludge, temporarily delisted and excluded by R.C.R.A. (formerly F006).
Volume of Waste Disposed:	No waste is disposed of in the pile. Pile is used to accumulate the sludge (<90 days) until it is sent off-site for disposal.
Dates of Disposal:	N/A
Description:	Waste pile is contained in a sloped, diked and drained concrete area at the Wastewater Treatment Plant. Drainage is pumped back into the treatment plant system.
Capacity:	500 cubic yards, maximum.
Dimensions:	80' X 20' x 10'
Location:	See overall plot plan.

WASTE PILE #2

Description of Waste:	Non-hazardous painting and machining sludge.
Volume of Waste Disposed:	No waste is disposed of in the pile. Pile is used to accumulate the sludge (<90 days) until it is sent off-site for disposal.
Dates of Disposal:	N/A
Description:	Waste pile is contained in a sloped, diked and drained concrete area at the Wastewater Treatment Plant. Drainage is pumped back into the treatment plant system.
Capacity:	500 cubic yards, maximum.
Dimensions:	80' X 20' X 10'
Location:	See overall plot plan.

ATTACHMENT B (Cont.)

WASTE PILE #3

Description of Waste:	Water Treatment Sludge, machining and paint sludges. (Hazardous and non-hazardous).
Volume of Waste Disposed:	No waste was disposed of in the pile. The pile was used to accumulate the material (< 90 days) until it was sent off-site for disposal.
Dates of Disposal:	N/A. Pile was used from 1979 to early 1981.
Description:	Pile of sludge.
Capacity:	Unknown.
Dimemsions:	Unknown.
Location:	See overall plot plan.

ATTACHMENT C

STORAGE TANK (UNDERGROUND)

Description of Waste:	Waste Stoddard Solvent, (D001) used for flow testing carburators and fuel injectors.
Volume of Waste Disposed:	No waste was disposed of in the tank. It was used to accumulate the waste (<90 days) before shipment off-site for disposal.
Dates of Disposal:	N/A, tank last used for accumulation in 1985 when it was totally emptied of waste. The tank is to be converted to a raw material tank.
Description:	Steel underground storage tank.
Capacity:	4,000 gallons.
Dimensions:	5'4" diameter X 24' long.
Location at Facility:	West of the Engineering Emission Building. See overall plot plan.

ATTACHMENT D

WASTE WATER TREATMENT UNITS

Description of Waste:

a. Wastewater from manufacturing operations.
b. Reclaimed oil.
c. Water treatment sludge.

Volume of Waste Disposed:

a. Wastewater (after treatment): One million gallons per day, discharged to the City of Pontiac Municipal Water Treatment Plant.

b. Reclaimed Oil: Not disposed of at facility. Sent off-site as a product.

c. Sludge: Not disposed of at facility. Sludge is dewatered and accumulated in a waste pile (see attachment B) prior to off-site shipment Water is pumped back into the treatment system.

Dates of Disposal: N/A

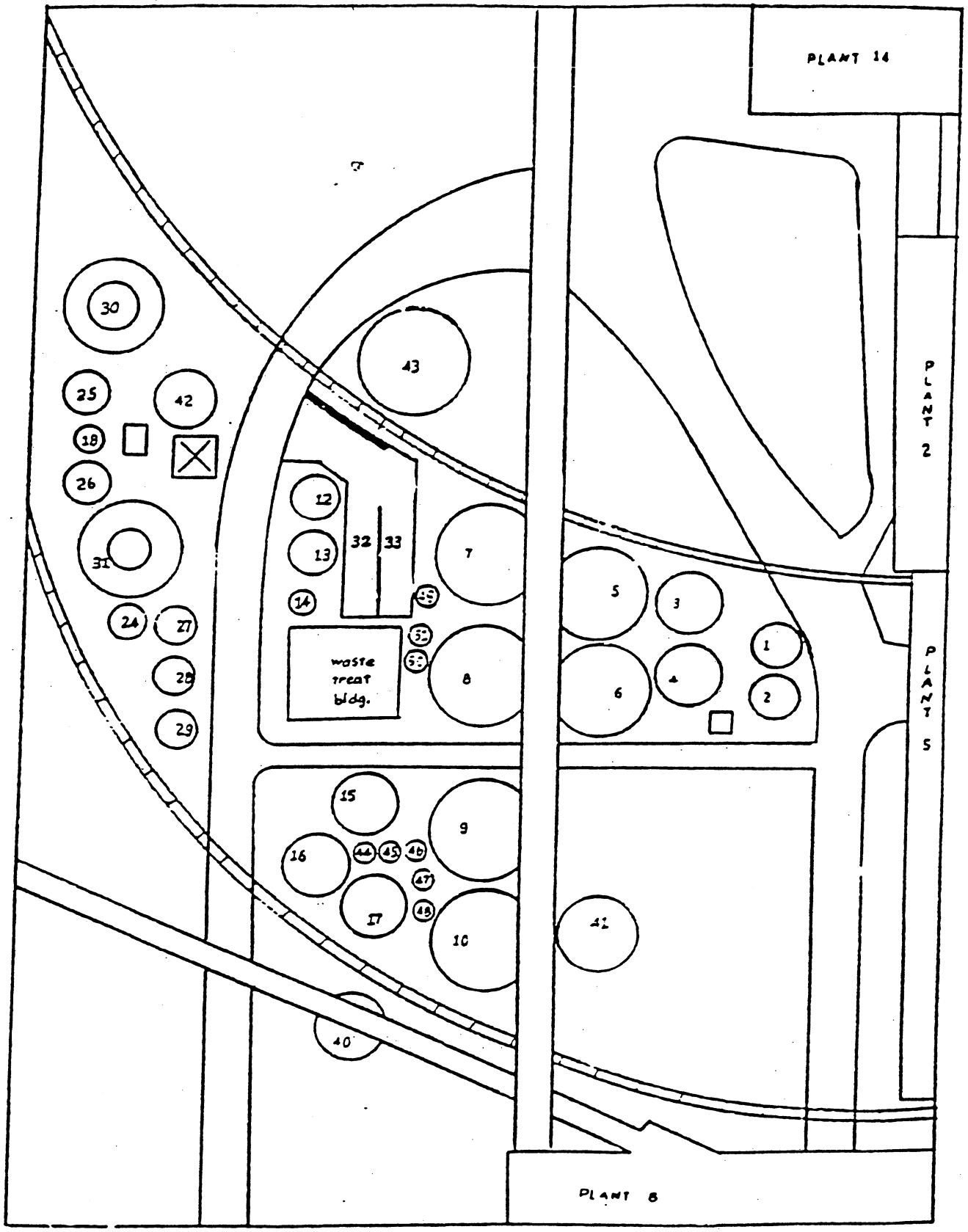
Description: See attached diagram.

Capacity: See attached diagram.

Dimensions: See attached diagram.

Location at Facility: See attached diagram and plot plan.

WASTE TREATMENT PLANT



WASTE TREATMENT PLANT TANKS

TANK NO.	SOLUTION	SIZE	CAPACITY - GAL.	LOCATION
1	UNUSED	29 x 10	49,410	OUTSIDE
2	UNUSED	29 x 10	49,410	OUTSIDE
3	UNUSED	40 x 10	94,000	OUTSIDE
4	UNUSED	40 x 10	94,000	OUTSIDE
5	UNUSED	58 x 20	395,260	OUTSIDE
6	UNUSED	58 x 20	395,260	OUTSIDE
7	WEAK METALLIC	68 x 20	543,300	OUTSIDE
8	WEAK METALLIC	68 x 20	543,300	OUTSIDE
9	OIL SHIPPING	68 x 20	543,300	OUTSIDE
10	ALKALI - OILY INFLUENT	68 x 20	543,300	OUTSIDE
12	INTERIM OIL TRANSFER	28 x 15	69,090	OUTSIDE
13	OILY RAG	28 x 15	69,090	OUTSIDE
14	SULPHURIC ACID HOLDING	16 x 10	15,040	OUTSIDE
15	ALKALI - OILY BATCH TREATMENT	42 x 15	155,450	OUTSIDE
16	ALKALI - OILY BATCH TREATMENT	42 x 15	155,450	OUTSIDE
17	ALKALI - OILY FLOC HOLDING	35 x 9	64,770	OUTSIDE
18	SLUDGE DEWATERING TRANSFER	10 x 9	5,290	OUTSIDE
19	SLUDGE HOLDING	10 x 9	5,290	2ND. FLOOR
19A	SLUDGE HOLDING	10 x 9	5,290	3RD. FLOOR
20	ALKALI - OILY FLOC TRANSFER	5 x 6	1,880	BASEMENT
24	LIME SLURRY	22 x 12	34,120	OUTSIDE
25	SLUDGE THICKENER	25 x 15	55,080	OUTSIDE
26	SLUDGE THICKENER	25 x 15	55,080	OUTSIDE
27	METALLIC POLISHING	28 x 15	69,090	OUTSIDE
28	METALLIC POLISHING	28 x 15	69,090	OUTSIDE
29	METALLIC POLISHING	28 x 15	69,090	OUTSIDE
30	FINAL CLARIFIER	60 x 15	317,240	OUTSIDE
31	FINAL CLARIFIER	60 x 15	317,240	OUTSIDE
32	SLUDGE CONSOLIDATION CELL	20 x 80		OUTSIDE
33	SLUDGE CONSOLIDATION CELL	20 x 80		OUTSIDE
34	DESOLVED AIR FLOTATION	12.5 x 8.5	7,800	1ST. FLOOR
34A	DESOLVED AIR FLOTATION	17 x 8.5	14,430	1ST. FLOOR
35	UNUSED			OUTSIDE
37	ALKALI - OILY EFFLUENT TRANSFER	6 x 5 x 9	2,020	BASEMENT
38	UNUSED	5 x 6	880	BASEMENT
40	ALKALI - OILY INFLUENT	42 x 15	155,540	OUTSIDE
41	ALKALI - OILY INFLUENT	42 x 25	259,080	OUTSIDE
42	SLUDGE THICKENER	40 x 15	141,000	OUTSIDE
43	FINAL CLARIFIER	70 x 15	435,180	OUTSIDE
44	ALKALI - OILY COOKER	12 x 14	11,840	OUTSIDE
45	ALKALI - OILY COOKER	12 x 14	11,840	OUTSIDE
46	ALKALI - OILY COOKER	12 x 14	11,840	OUTSIDE
47	ALKALI - OILY COOKER	12 x 14	11,840	OUTSIDE
48	ALKALI - OILY COOKER	12 x 14	11,840	OUTSIDE
49	20% CAUSTIC HOLDING	9.5 x 10.5	14,690	OUTSIDE
50	ALUM HOLDING	9.5 x 10.5	5,570	OUTSIDE
51	POLYMER HOLDING	9.5 x 10.5	5,570	OUTSIDE
52	COOKER OVERFLOW SUMP			OUTSIDE
53	UNUSED	6.5 x 15	14,890	OUTSIDE
54	VACUUM FILTRATE TRANSFER	9 x 5 x 6.5	2,190	BASEMENT
55	SOFT WATER RECIRCULATION	5 x 4 x 4	600	BASEMENT

ATTACHMENT E

For all of the units described in Number 1 and the hazardous waste units in C.P.C. - Pontiac's Part A application, except the Wastewater Treatment Unit, there is no data available to indicate that any past or current releases of hazardous wastes or constituents into the environment has occurred.

The following is a list (bases on all existing records) of past releases for the Wastewater Treatment Units. There are no current, on going releases.

1. Date of release: March 27, 1984
   Type of waste: Alkali-Oily influent waste water
   Volume lost: 50 gallons
   Nature of release: Ruptured pipe. Material entered storm sewer.

2. Date of release: September 13, 1980
   Type of waste: Oil/Water mixture. (2% oil/ 98% water)
   Volume lost: 500 gallons
   Nature of release: Overflowing tank.

3. Date of release: February 22, 1980
   Type of waste: Waste cyanide plating solution
   Volume lost: 200 gallons
   Nature of release: Ruptured pipe. Material entered sewer system.

4. Date of release: April 17, 1979
   Type of waste: Alkali-Oily Sludge
   Volume lost: 1,000 gallons
   Nature of release: Overflowing tank

5. Date of release: April 1, 1979
   Type of waste: Acid-alkali waste water
   Volume lost: Unknown
   Nature of release: Holding tank leak.

6. Date of release: March 28, 1979
   Type of waste: Lime slurry
   Volume lost: 1,000 gallons
   Nature of release: Overflowing tank.

7. Date of release: March 17, 1979
   Type of waste: Reclaimed Oil
   Volume lost: 50 gallons
   Nature of release: Steam agitator broke and sprayed oil from the tank over the side of the tank.

8. Date of release: February 9, 1979
   Type of waste: Reclaimed Oil
   Volume lost: 20 gallons
   Nature of release: Oil tanker had two fittings leak.

9. Date of release: February 6, 1979
   Type of waste: Oil
   Volume lost: 1,100 gallons
   Nature of release: An oil treatment tank overflowed.

10. Date of release: May 9, 1978
    Type of waste: Strong metallic waste water
    Volume lost: 15,000 gallons
    Nature of release: Ruptured pipe.

11. Date of release: July 25, 1977
    Type of waste: Oily waste water
    Volume lost: 2,500 gallons
    Nature of release: Tank overflow.

12. Date of release: August 21, 1976
    Type of waste: Oil
    Volume lost: 250 gallons
    Nature of release: Tank overflow.

13. Date of release: June 2, 1976
    Type of water: Obsolete parts washer material
    Volume lost: 70 gallons
    Nature of release: Leaking drums.

14. Date of release: December 4, 1975
    Type of waste: Oily floc
    Volume lost: Minimal
    Nature of release: Tank overflow.

15. Date of release: November 21, 1975
    Type of waste: Chrome solution
    Volume lost: Unknown
    Nature of release: Leaking line.

16. Date of release: March 20, 1975
    Type of waste: Cyanide solution
    Volume lost: Unknown
    Nature of release: Broken line.

ATTACHMENT F

For all of the releases noted in Attachment E, the material either was contained in the Wastewater Treatment Plant area and cleaned-up or if the material entered the sewer system, it was reported as a release.

Any releases on the ground were cleaned-up and all environmental contamination was removed and properly disposed of.

Topographic Map, Sanborn Map, and Aerial Photograph Review

Topographic Map Review

Historical U.S. Geological Survey (USGS) topographic maps for the Pontiac North Quadrangle were reviewed to evaluate past conditions at the Site. USGS topographic maps from 1943 (USGS, 1943), 1952 (USGS, 1952), 1968 (USGS, 1968), and 1983 (USGS, 1983) were reviewed.

1943 Topographic Map

The 1943 map illustrates the location of buildings that correspond to the following current site buildings:

- Plants 1 and 11 (Heat Treat);
- Plant 2;
- Plant 5;
- Plant 6 (Central Foundry Division Plant);
- Plant 8;
- Plant 9 (CPC Engine Operations);
- Plant 14;
- Plant 17 (CPC Fiero Assembly); and
- Plant 18 (CPC Engine Operations eastern portion).

The topographic map also identifies a wetland area at the location where current Plants 51, 55, and 75 are located.

1952 Topographic Map

The 1952 map generally illustrates the same information as provided on the 1943 map. However, the 1952 map shows the addition of four new buildings that include the following:

- Engineering North Building;
- Compressor Building;
- Plant 12; and
- Plant 15.

The wetland area at the location where Plants 51, 55, and 75 are currently located is still present.

1968 Topographic Map

The 1968 map illustrates the same information as provided on the 1952 map, except for the addition of the following buildings:

- Administration Building;
- Portion of a building located immediately west of Plant 9;
- Engineering North Building (Southern portion);
- Plant 16;
- Plant 18 (Western portion);
- Plant 49;
- Plant 51; and
- Plant 75.

Because of poor map quality, topographic information could not be obtained from the map for review.

1983 Topographic Map

The 1983 topographic map illustrates the same Site conditions (e.g., Site structures, water tanks, parking areas, conveyor, and railroad tracks) that currently exist at the Site (see Figure 1-2). No storage areas, ponds, or excavation areas were identified on the map.

Topography in the area of the Site is relatively flat with an elevation between approximately 970 feet above mean sea level (amsl) at the southeast corner of the Site to 980 feet amsl at other Site areas. A topographic low (approximately 960 feet amsl) is identified northeast of current Plant 49 and extends north to First and Second avenues.

Sanborn Fire Insurance Map Review

Sanborn Fire Insurance maps assist in the identification of historical land use and commonly indicate the existence and location of ASTs and USTs, structures, improvements, and Site operations. Sanborn maps were reported to be available for the Site for the years 1950 and 1970. However, the 1970 Sanborn map is labeled as "No Longer Corrected"; therefore, this map was not reviewed in detail.

The 1950 Sanborn map indicated that the Plant 2 and Plant 5 area was occupied by the Pontiac Motor Division. These buildings were identified as Plant 10 and used for the storage and shipping of automobiles. Additionally, several railroad tracks enter the west side of Plant 2. No USTs or ASTs were identified.

Aerial Photograph Review

Aerial photographs were reviewed to document the general development of the Site and properties in the vicinity of the Site and to identify potential on-site solid waste disposal areas. Aerial photographs of the Site and surrounding areas were obtained from GM for the years 1937, 1940, 1966, 1970, 1975, 1980, 1985, 1988, 1990, and 1997.

The 1937 and 1940 aerial photographs show the Plant 12 area as vacant property with little activity. The surrounding land use to the north, east, and west was vacant or residential. The land use to the south was industrial and included the portions of the Site including the Foundry, Plant 2, Plant 5, Plant 8, and Plant 9. The current location of the WWTP is occupied by an oval test track. Additionally, several railroad tracks enter Plant 2 on the west side and there appears to be extensive activity in the West Yard, southwest of the MFD area (within the DA).

In the 1966, 1970, and 1975 aerial photographs, Plant 12 had been constructed, with both of the additions. Additionally, the majority of the Site had been constructed including the WWTP, Plant 14, Plant 15, Plant 16, and Plant 75. The railroad tracks entering the west side of Plant 2 have been removed with the exception of one railroad track that enters between Plant 2 and Plant 5. In the West Yard, the Salvage Building and the Compressor Building were constructed, and the Foundry has undergone an expansion. The 1970 aerial photograph shows the construction of the Administration Building and Plant 25. The density of the residential development around the Site had increased from previous aerial photographs.

In the 1980, 1985, 1988, and 1990 aerial photographs, the Site appears generally as it did in the earlier photographs. These photographs show the Site at its peak, as far as buildings and floor space. The 1985 photograph shows Plant 33 as an addition to Plant 25.

In the 1997 aerial photograph, the Foundry, Salvage, and Compressor Buildings in the DA have all been demolished.

Appendix C

C-1 Notification of Hazardous Waste Activity (GM, 1980c)
C-2 Part A Permit Application (November 1980) (GM, 1980e)
C-3 Letter to GM, re: Interim Status Acknowledgement (USEPA, 1982a)
C-4 Part A Permit Application (June 1985) (GM, 1985c)
C-5 Letter to GM, re: Revised Part A Application (USEPA, 1985)
C-6 Part A Permit Application (February 1986) (GM, 1986b)
C-7 Part A Permit Application (November 1987) (GM, 1987i)
C-8 Letter to GM, re: Revised Part A Permit Application (MDNR, 1987f)

C-1

Fisher Body
DIVISION OF GENERAL MOTORS CORPORATION

INTER-ORGANIZATION

PONTIAC
PLANT

SUBJECT : Notification Hazardous Waste

DATE August 8, 1980

FROM : S. Sasaki

TO : David J. Eden - Director of Plant Environment, E.A.S.

Attached is a copy of our E.P.A. Form 8700-12, Notification of Hazardous Waste Activity, as reviewed, amended and released by Mr. R. Williams of your activity.

For additional information, please call me or Mr. Frank Heiman at Centrex 8-237-2584.

S. Sasaki
Plant Engineer

c.c. F. D. Faga
P. Becker W.E.A.
F. Heiman
File

EPA NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

INSTALLATION'S EPA I.D. NO.: MID005356910

I. NAME OF INSTALLATION: FISHER BODY PONTIAC ~~GENERAL MOTORS CORPORATION~~

II. INSTALLATION MAILING ADDRESS: 900 BALDWIN AVE, PONTIAC, MI 48055

III. LOCATION OF INSTALLATION: 900 BALDWIN AVE, PONTIAC, MI 48055

FOR OFFICIAL USE ONLY

COMMENTS:

INSTALLATION'S EPA I.D. NUMBER: F | T/A: C | 1

APPROVED:

DATE RECEIVED (yr., mo., & day):

I. NAME OF INSTALLATION

GMC FISHER BODY DIV. PONTIAC PLANT

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 900 BALDWIN

CITY OR TOWN: PONTIAC | ST.: MI | ZIP CODE: 48055

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: 900 BALDWIN

CITY OR TOWN: PONTIAC | ST.: MI | ZIP CODE: 48055

IV. INSTALLATION CONTACT

NAME AND TITLE *(last, first, & job title)*: SASAKI SAG PLANT ENGINEER

PHONE NO. *(area code & no.)*: 313-857-2584

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER: GENERAL MOTORS CORP

B. TYPE OF OWNERSHIP *(enter the appropriate letter into box)*: M

F = FEDERAL
M = NON-FEDERAL

VI. TYPE OF HAZARDOUS WASTE ACTIVITY *(enter "X" in the appropriate box(es))*

- [X] A. GENERATION
- [X] B. TRANSPORTATION *(complete item VII)*
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION *(transporters only – enter "X" in the appropriate box(es))*

- [ ] A. AIR
- [ ] B. RAIL
- [X] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER *(specify):*

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION *(complete item C)*

C. INSTALLATION'S EPA I.D. NO.:

X. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

I.D. – FOR OFFICIAL USE ONLY

W

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F012					
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

☐ 1. IGNITABLE (D001) ☐ 2. CORROSIVE (D002) ☐ 3. REACTIVE (D003) ☐ 4. TOXIC (D000)

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
SEE PAGE 3		

I.D. – FOR OFFICIAL USE ONLY

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S	W											T/A	C	1

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F001	F005	F017	F002	F008	F010
7	**8**	**9**	**10**	**11**	**12**
F003	F006	F018	F007	F009	F011

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	**20**	**21**	**22**	**23**	**24**
25	**26**	**27**	**28**	**29**	**30**

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
U226	U238				
37	**38**	**39**	**40**	**41**	**42**
43	**44**	**45**	**46**	**47**	**48**

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

☒ 1. IGNITABLE (D001) ☒ 2. CORROSIVE (D002) ☒ 3. REACTIVE (D003) ☒ 4. TOXIC (D000)

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
	PLANT MANAGER	8/8/80

DETACH

DETACH

C-2

1 GENERAL — EPA — GENERAL INFORMATION

11-18-80

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER	F M I D 0 0 5 3 5 6 9 1 0

LABEL ITEMS

I. EPA I.D. NUMBER

II. FACILITY NAME

III. FACILITY MAILING ADDRESS

IV. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		N.A.	D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

SKIP: GMC FISHER BODY DIV. PONTIAC

V. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
SASAKI S PLANT ENGINEER	313 857 2584

VI. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 900 BALDWIN AVE

B. CITY OR TOWN	C. STATE	D. ZIP CODE
PONTIAC	MI	48055

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 900 BALDWIN AVE

B. COUNTY NAME: OAKLAND

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
PONTIAC	MI	48055	

7	MOTOR VEHICLE & CAR BODIES	7	

C. THIRD: (specify)

D. FOURTH: C 7 (specify)

III. OPERATOR INFORMATION

A. NAME: GMC FISHER BODY DIV. PONTIAC PLANT

B. Is the name in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)
P (specify)

D. PHONE (area code & no.): C A 313 857 2564

E. STREET OR P.O. BOX: 00 BALDWIN AVE

F. CITY OR TOWN: PONTIAC

G. STATE: MI

H. ZIP CODE: 48055

IX. INDIAN LAND
Is the facility located on Indian lands? ☐ YES ☒ NO

EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	N	MI0027014	
B. UIC (Underground Injection of Fluids)	U	N.A.	
C. RCRA (Hazardous Wastes)	R	N.A.	
D. PSD (Air Emissions from Proposed Sources)	9 P	N.A.	
E. OTHER (specify) AIR	9	MI 105-77	(specify) MI-495-78
E. OTHER (specify) AIR	9	MI 177-73	(specify) MI-106-73

MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

NATURE OF BUSINESS (provide a brief description)

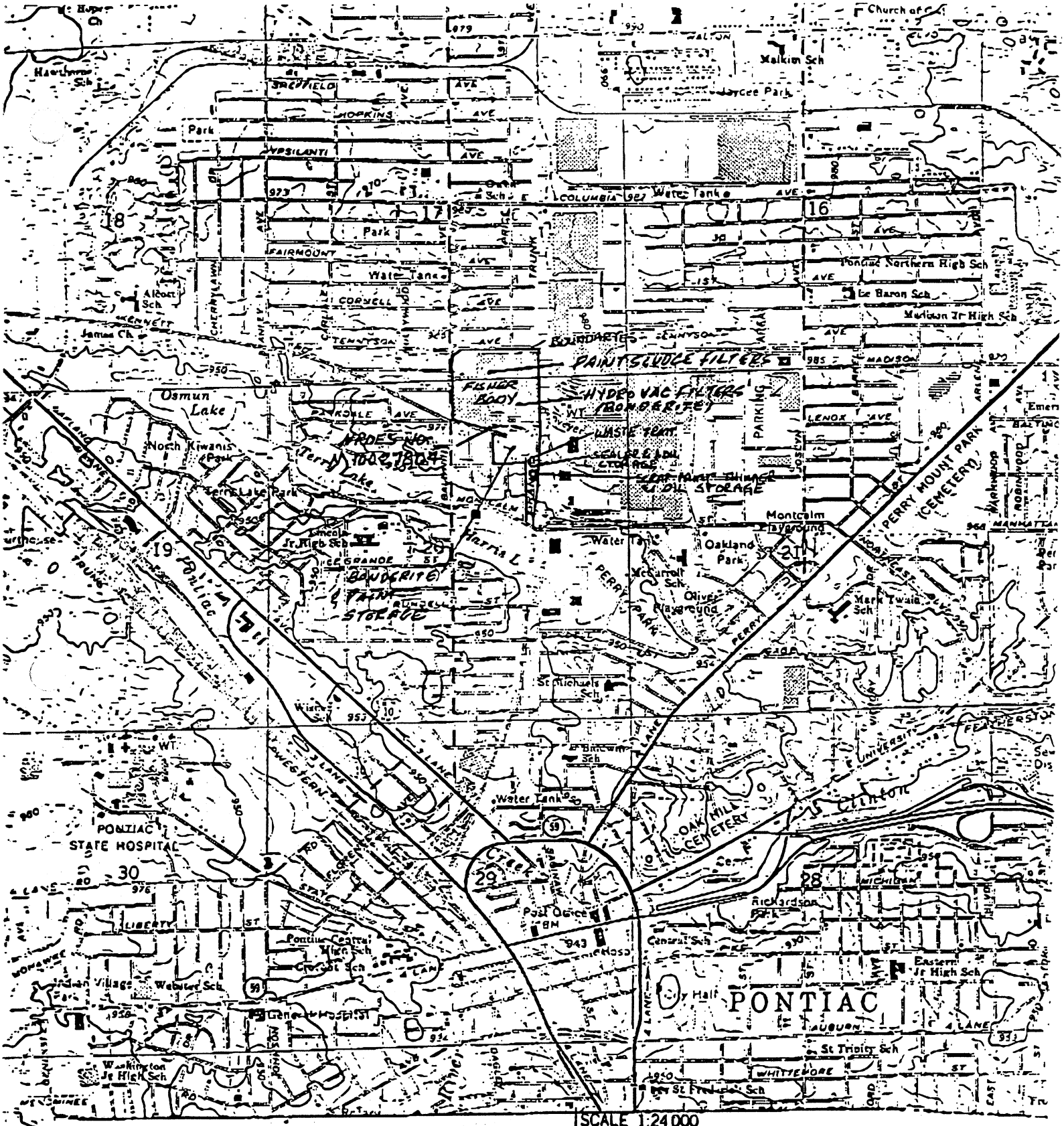
PRODUCTION OF AUTOMOBILE BODIES

CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
C. Katko, General Manager	C Katko	11-18-80

COMMENTS FOR OFFICIAL USE ONLY


PONTIAC
PONTIAC STATE HOSPITAL
Osmun Lake
North Kiwanis Park
Perry Lake
Perry Lake Park
Oakland Park
Montcalm Playground
Oak Hill Cemetery
Perry Mount Park
Richardson Park
Olivet Playground
Mark Twain Sch
Lincoln Jr High Sch
Webster Sch
Washington Jr High Sch
Central Sch
Eastern Jr High Sch
St Michaels Sch
St Tripity Sch
Malkin Sch
Hawthorne Sch
Alcott Sch
James Ch
Madison Jr High Sch
Le Baron Sch
Pontiac Northern High Sch
Water Tank
Post Office
Pontiac Central High Sch
Indian Village
Park
Golf Course
Church of C
PAINT SLUDGE FILTERS
HYDRO VAC FILTERS (HOMOGENIZED)
WASTE TANK
SCALE & TOOL STORAGE
PAINT THINNER & OIL STORAGE
BOUDERITE & PAINT STORAGE
FINGER BODY
PARKING
WT
Harris L
Clinton
Auburn
Whittemore
Lenox Ave
Madison
Columbia
Fairmount
Cornell
Tennyson
Hopkins
Ypsilanti
Sherfield
Huron
Grande
Pontiac Trail
Cherry Lawn
Daniel
Crofton
Johnson
Lapeer
Perry
Manhattan
Arlene
Robinwood
Emer
Baltimore
Eastern
Universal
Lakeland
Telegraph
Opdyke
Square Lake
Maple
Big Beaver
Auburn
Rochester
Dequindre
Livernois
Crooks
Coolidge
Woodward
Adams
John R
Stephenson
Main
Saginaw
Lapeer
Oakland
Perry
Pontiac Trail
Telegraph

J RCRA

EPA — Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I.D. Number: F M I D 0 0 5 3 5 6 9 1 0

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

- [X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*
- [ ] 2. NEW FACILITY *(Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*: YR. 26 | MO. | DAY

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN: YR. | MO. | DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

- [ ] 1. FACILITY HAS INTERIM STATUS
- [ ] 2. FACILITY HAS A RCRA PERMIT

II. PROCESSES — CODES AND DESIGN CAPACITIES

C. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

D. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR OR GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

DUP — 1

LINE NUMBER	A. PROCESS CODE (From list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G	
X-2	T03	20	E	
1	S01	18,700	G	
2	S02	600,000	G	
3	T01	768,000	U	
4				
5	T04	384,000	U	
6	T04	3,110,400	U	
7	T04	86,400	U	
8				
9				
10				

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

T04 - 384,000 GAL/DAY - WASTE WATER TREATMENT SLUDGE DEWATERING

T04 - 3,110,400 GAL/DAY - PAINT SLUDGE DEWATERING

T04 - 86,400 GAL/DAY - BONDERITE SLUDGE DEWATERING

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describe the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If your records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
For listed hazardous wastes: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K054	900	P	T03 D80	
X-2	D002	400	P	T03 D80	
X-3	001	100	P	T03 D80	
X-4	D002				included with above

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)														FOR OFFICIAL USE ONLY											
M	I	D	0	0	5	5	6	9	1	0			1	W		DUP							2	DUP	

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	F001	4125	P	S01				
2	F002							INCLUDED WITH ABOVE
3	F007	620	T	S01				
4	F008							INCLUDED WITH ABOVE
5	F003	112,000	P	S01				
6	F005							INCLUDED WITH ABOVE
7	F018	850	T	S02	T04			
8	F006							INCLUDED WITH ABOVE
9	F009							INCLUDED WITH ABOVE
10	F010	1485	P	S01				
11	F011							INCLUDED WITH ABOVE
12	F017	850	T	S02	T04	S01		
13	D001	68	T	S01				
14	D002	315	P	S02	T01			
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

F | M | I | D | 0 | 0 | 5 | 3 | 5 | 6 | 9 | 1 | 0 | T/A | 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
42 39 41.4	083 17 40.0

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	G		

IX. OWNER CERTIFICATION

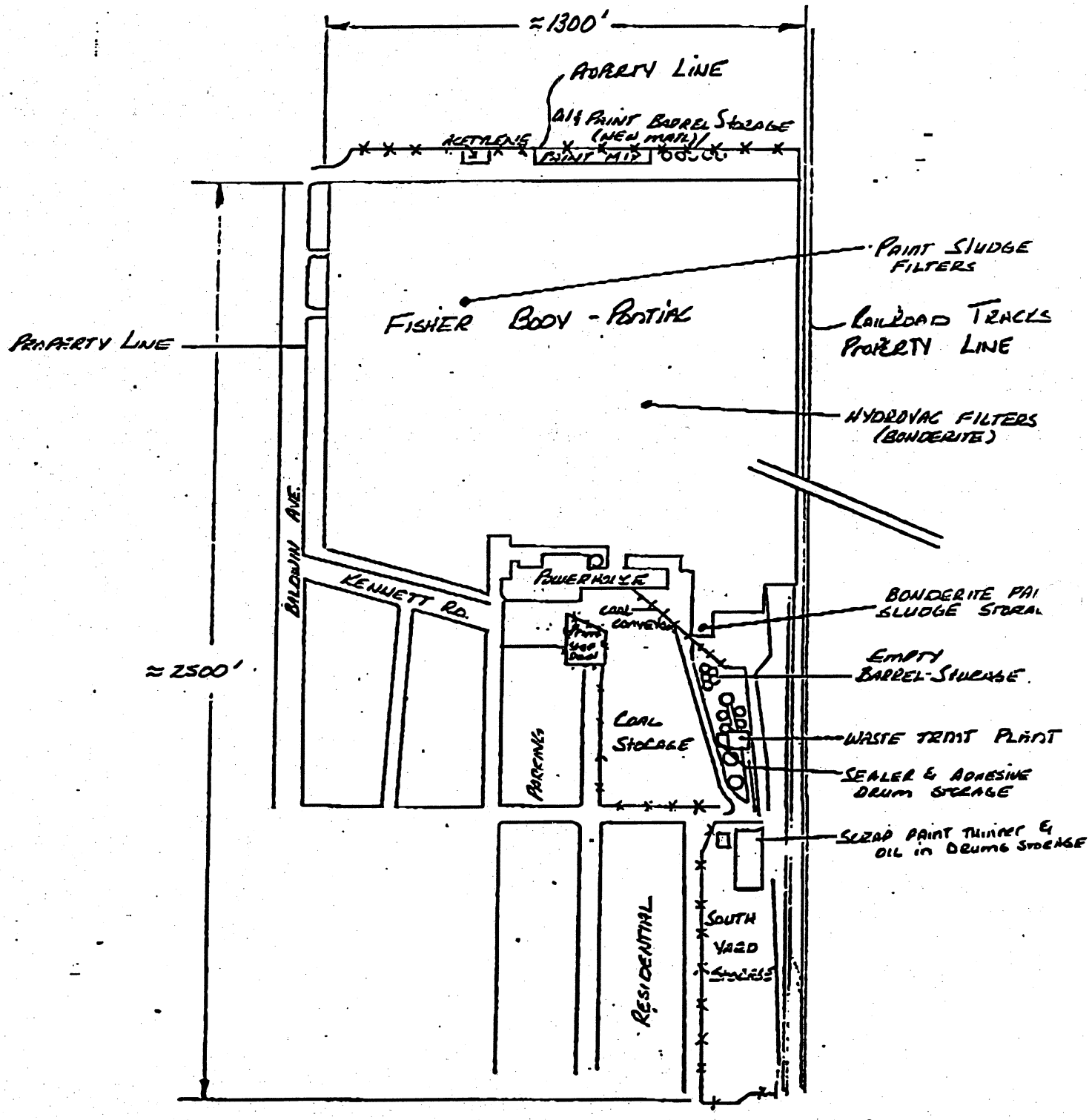
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
C. Katko, General Manager	C Katko	11-18-80

X. OPERATOR CERTIFICATION

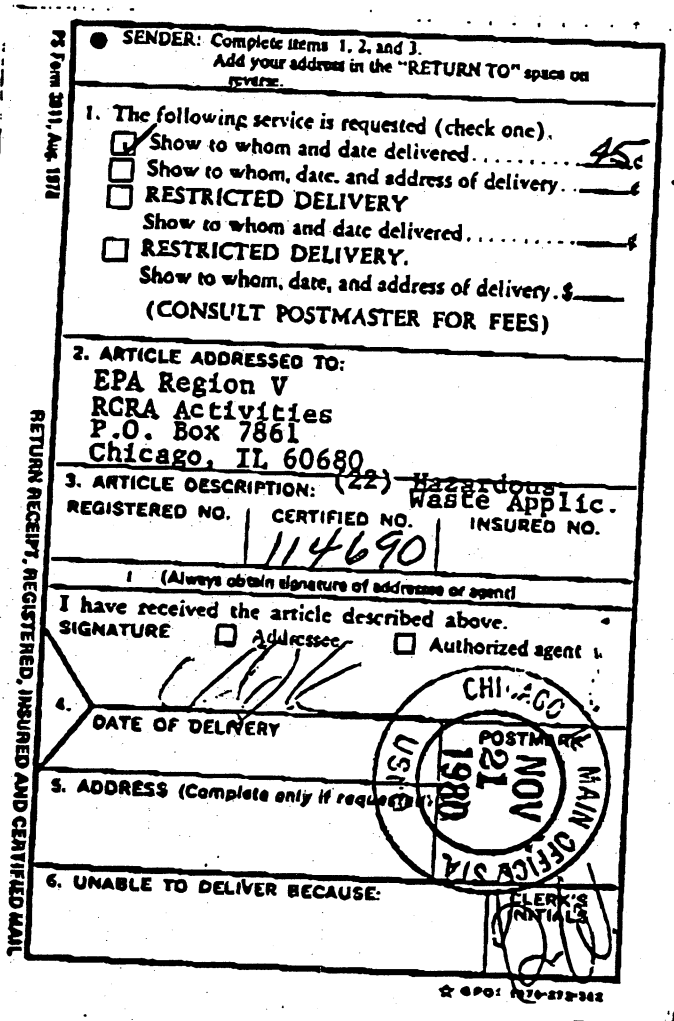
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED



APPROX. SIZE OF Bldg. AND STORAGE AREAS = 1,440,000 Sq. ft.

Scale 1" = 400'



PS Form 3811, Aug. 1978

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

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

1. The following service is requested (check one).
- ☑ Show to whom and date delivered..... 45¢
- ☐ Show to whom, date, and address of delivery..... ¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered..... ¢
- ☐ RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery. $
  (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
EPA Region V
RCRA Activities
P.O. Box 7861
Chicago, IL 60680

3. ARTICLE DESCRIPTION: (22) Hazardous Waste Applic.

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	114690	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☐ Authorized agent

4. DATE OF DELIVERY

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

CHICAGO POSTMARK NOV 21 1980 MAIN OFFICE STA USPS

☆ GPO: 1979-272-342

C-3

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
111 West Jackson Blvd.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF
RCRA ACTIVITIES

JUN 4 1982

S. Sasaki, Plant Manager
GMC Fisher Body Div. Pontiac
900 Baldwin Avenue
Pontiac, Michigan 48055

RE: Interim Status Acknowledgement USEPA ID No. MID005356910
FACILITY NAME: GMC Fisher Body Div. Pontiac

Dear Mr. Sasaki:

This is to acknowledge that the U.S. Environmental Protection Agency (USEPA) has completed processing your Part A Hazardous Waste Permit Application. It is the opinion of this office that the information submitted is complete and that you, as an owner or operator of a hazardous waste management facility, have met the requirements of Section 3005(e) of the Resource Conservation and Recovery Act (RCRA) for Interim Status. However, should USEPA obtain information which indicates that your application was incomplete or inaccurate, you may be requested to provide further documentation of your claim for Interim Status. Our opinion will be reevaluated on the basis of this information.

As an owner or operator of a hazardous waste management facility, you are requir to comply with the interim status standards as prescribed in 40 CFR Parts 122 and 265, or with State rules and regulations in those States which have been authorized under Section 3006 of RCRA. In addition, you are reminded that operating under interim status does not relieve you from the need to comply with all applicable State and local requirements.

The printout enclosed with this letter identifies the limit(s) of the process design capacities your facility may use during the interim status period. This information was obtained from your Part A Permit application. If you wish to handle new wastes, to change processes, to increase the design capacity of existing processes, or to change ownership or operational control of the facility, you may do so only as provided in 40 CFR Sections 122.22 and 122.23.

As stated in the first paragraph of this letter, you have met the requirements of 40 CFR Part 122.23; your facility may operate under interim status until such time as a permit is issued or denied. This will be preceded by a request from this office or the State (if authorized) for Part B of your application. Please contact Arthur Kawatachi of my staff at (312) 886-7449, if you have any questions concerning this letter or the enclosure.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

Enclosure
cc: C. Kato, General Manager

FACILITY NAME	EPA ID NUMBER
GMC FISHER BODY DIV PONTIAC	MID005356910

FACILITY OPERATOR

GMC FISHER BODY DIV PONTIAC PLANT

FACILITY OWNER

GMC FISHER BODY DIV PONTIAC PLANT

FACILITY LOCATION

900 BALDWIN AVE
PONTIAC MI 48055

PROCESS CODE	DESIGN CAPACITY	UNIT OF MEASURE
T01	768000.00000	U
S02	600000.00000	G
S01	18700.00000	G
T04	3501600.00000	U

KEY

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE
STORAGE:		
CONTAINER	S01	G OR L
TANK	S02	G OR L
WASTE PILE	S03	Y OR C
SURFACE IMPOUNDMENT	S04	G OR L
DISPOSAL:		
INJECTION WELL	D79	G,L,U, OR V
LANDFILL	D80	A OR F
LAND APPLICATION	D81	B OR Q
OCEAN DISPOSAL	D82	U OR V
SURFACE IMPOUNDMENT	D83	G OR L
TREATMENT:		
TANK	T01	U OR V
SURFACE IMPOUNDMENT	T02	U OR V
INCINERATOR	T03	D,W,E, OR H
OTHER	T04	J,R,N,S,U,V

UNIT OF MEASURE	CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS\HOUR	W
GALLONS\HOUR	E
LITERS\HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q
POUNDS\HOUR	J
KILOGRAMS\HOUR	R
TONS PER DAY	N
METRIC TONS\DAY	S

C-4

CHEVROLET-PONTIAC CANADA GROUP
GENERAL MOTORS CORPORATION
FIERO ASSEMBLY PLANT
900 BALDWIN AVENUE
PONTIAC, MI 48058-3487

6-27-85

U. S. - E. P. A.
Region 5 RCRA Activities
239 S. Dearborn Street
Chicago, Il 60604

Please revise Part A - RCRA Permit MID005356910 as follows:

Change name from Pontiac Motor Division-Plant 17, General Motors Corp. To CPC Group-Pontiac Fiero Assembly, General Motors Corp.

Because of January 4, 1985 RCRA Amendments, the elimination of plant waste treatment facilities, production, and material changes, revise Form 3 - Part III - Processes - Codes and Design Capacities as follows:

1. Delete Line 2 - S02 - 600,000 Gal.
   Delete Line 3 - T01 - 768,000 Gal/Day
   Delete Line 5 - T04 - 384,000 Gal/Day

   The above tanks were used in conjunction with Plant Waste Treatment Building. The tanks and Waste Treatment Complex have been eliminated.

2. Delete Line 6 - T04 - 3,110,400 Gal/Day
   Delete Line 7 - T04 - 86,400 Gal/Day

   The above process waste water is transmitted via pipeline to Waste Treatment Plant at Main Plant and covered under Pre-Treatment Standards.

3. Add Line 2 - S02 - 12,000 G

   The above tank holds waste thinner for reclaim.

Revise Form 3 - Part IV - Description of Hazardous Wastes as follows:

1. Delete Line 1 - F001 - 4125 - P - S01
   Delete Line 2 - F002 - Included with above

   Plant has no halogenated wastes.

2. Delete Line 3 - F007 - 620 - T - S01
   Delete Line 4 - F008 - Included with above

Above wastes transmitted via pipeline to Waste Treatment Complex at Main Plant

3. Delete Line 5 - F003 - 112,000 - P - S01
   Delete Line 6 - F005 - Included with above

   Xylene and Toluene used only in Production Process as a reducer

4. Delete Line 7 - F018 - 850T - S02 - T04
   Delete Line 8 - F006 - Included with above
   Delete Line 9 - F009 - Included with above

   Above wastes transmitted via pipeline to Waste Treatment Complex at Main Plant

5. Delete Line 10 - F010 - 1485 P - S01
   Delete Line 11 - F011 - Included with above

   Plant does not have wastes from heat treat (oil bath sludges) and metal heating (salt baths)

6. Delete Line 12 - F017 - T - S02 - T04 - S01

   Removed from EPA Hazardous Waste List

7. Delete Line 14 - 315 - P - T01

   Battery acid wastes transmitted via pipeline to Waste Treatment Complex at Main Plant

8. Add line 2 - D001 - 100,000 - G - S02

   Thinner Wastes

G. A. Moore
Superintendent,
Plant Engineering

GAM/js
cc: S. Sasaki
R. Kieft
W.Collinson - EAS
L. Minkwick - DPC
F. Heiman

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F M I D 0 0 5 3 5 6 9 1 0

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, aff it in the designated space. Review the infor ation carefully; if any of it is incorrect, cro through it and enter the correct data in t appropriate fill-in area below. Also, if any the preprinted data is absent *(the area to t left of the label space lists the informatio that should appear)*, please provide it in t proper fill-in area(s) below. If the label complete and correct, you need not comple items I, III, V, and VI *(except VI-B whic must be completed regardless)*. Complete items if no label has been provided. Refer the instructions for detailed item descri tions and for the legal authorizations und which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACH
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		NA	D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: C.P.C.PONTIAC FIERO ASSEMBLY PLANT OF GMC

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 G A MOORE PLANT ENGINEER	313 857 2797

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX	B. CITY OR TOWN	C. STATE	D. ZIP CODE
3 900 BALDWIN	4 PONTIAC	MI	48055

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER	B. COUNTY NAME	C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
5 900 BALDWIN	OAKLAND	6 PONTIAC	MI	48055	063

EPA Form 3510-1 (6-80)

CONTINUE ON REVERS

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
3711 MOTOR VEHICLES	(specify)

C. THIRD	D. FOURTH
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME: C P C PONTIAC FIERO ASSEMBLY PLANT GMC

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC (other than federal or state), O = OTHER (specify)
P (specify)

D. PHONE (area code & no.): A 313 857 2797

E. STREET OR P.O. BOX: 900 BALDWIN

F. CITY OR TOWN: PONTIAC

G. STATE: MI

H. ZIP CODE: 48055

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
N MI0027804	P

B. UIC (Underground Injection of Fluids)	E. OTHER (specify)
U NA	(specify)

C. RCRA (Hazardous Wastes)	E. OTHER (specify)
R MID005356910	(specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

PRODUCTION OF AUTOMOBILES

XIII. CERTIFICATION (see instructions)

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
D.D. Cambell	X D. D. Cambell	4/17/85

COMMENTS FOR OFFICIAL USE ONLY

C

SCALE 1:24000

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS

FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON 25, D. C.

A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUI

(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F M I D 0 0 5 3 5 6 9 1 0

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C 8 | YR. | MO. | DAY

☐ 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. **PROCESS CODE** – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. **PROCESS DESIGN CAPACITY** – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY O LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G	
X-2	T 0 3	20	E	
1	S 0 1	18,700	G	
2	S 0 2	12,000	G	
3				
4				
5				
6				
7				
8				
9				
10				

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four—digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four—digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non—listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non—listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non—listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)		FOR OFFICIAL USE ONLY	
WMIDO05356910	1	W DUP	2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D001	68	T	501	
2	D001	400	T	502	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVER

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. *(enter from page 1)*

F	M	T	D	0	0	5	3	5	6	9	1	0	T/A	6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground-level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
42 39 41 N	083 17 40 W

VIII. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

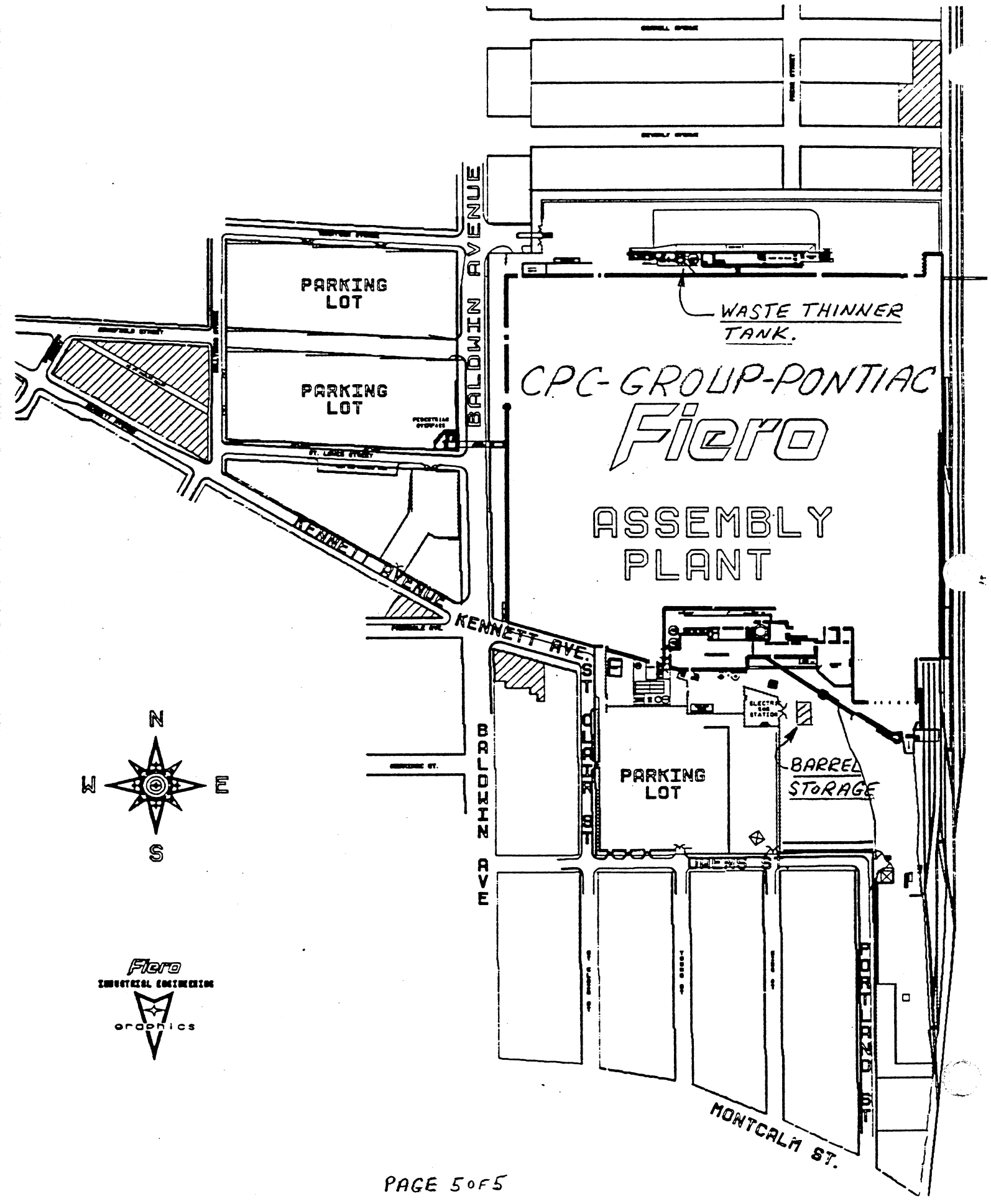
This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
D.D. Cambell	D.D. Campbell	6/27/85

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED


PARKING LOT
PARKING LOT
BALDWIN AVENUE
WASTE THINNER TANK.
CPC-GROUP-PONTIAC
Fiero
ASSEMBLY PLANT
KENNETT AVENUE
KENNETT AVE.
ST. CLAIR ST.
BALDWIN AVE
PARKING LOT
BARREL STORAGE
MONTCALM ST.
N
W
E
S
Fiero
INDUSTRIAL ENGINEERING
graphics

C-5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF:
5HS-JCK-13

DEC 02 1985

CERTIFIED MAIL P 611 589 372
RETURN RECEIPT REQUESTED

Mr. G. A. Moore
Superintendent, Plant Engineering
CPC Group-Pontiac Fiero Assembly
General Motors Corp.
900 Baldwin Ave.
Pontiac, MI 48058-3487

RE: Pontiac Fiero Assembly
Revised Part A Application
MID 005 356 910

Dear Mr. Moore:

I am writing in response to your revised Part A Hazardous Waste Management Application.

As discussed in your telephone conversation with Randi Kim of my staff, the units which have been deleted from your application were not regulated units. The treatment tanks were exempt under 40 CFR 265.1(c)(10) as "wastewater treatment units". The storage tanks were operating as "less than 90 days" storage units. Therefore, a partial closure plan is not requested.

Since you continue to store hazardous waste in tanks and containers for greater than 90 days, the status of your facility is that of a regulated storage facility.

Sincerely,

Edith M. Ardiente, P.E.
Chief, Technical Programs Section

cc: Alan J. Howard

CC F. HEIMAN
L. ATTWATER

C-6

Chevrolet·Pontiac·Canada Group
Pontiac Fiero Plant
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48053

February 14, 1986

U.S. - E.P.A.
Region 5 RCRA Activities
2395 Dearborn Street
Chicago, Il 60604

Dear Sirs:

Please revise Part A RCRA Permit MID005356910 Form 3-Part IV - Description of Hazardous Waste as follows:

Revise line 2 - EPA Hazard Waste Code
From D001 to F005

Line 2 to read: F005 - 400 T-S02 Thinner Wastes

Revised to reflect best classification.

G. A. Moore
Superintendent,
Plant Engineering

GAM/js
cc: S. Sasaki
R. Kieft
W. Collinson - EAS
L. Minkwick - CPC
F. Heiman

1 GENERAL

EPA

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

F MID005356910

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affi it in the designated specs. Review the inform ation carefully; if any of it is incorrect, cro through it and enter the correct data in th appropriate fill—in area below. Also, if the preprinted data is absent *(the are left of the label space lists the info ther should appear)*, please provide it in th proper fill—in area(s) below. If the label complete and correct, you need not complet items I, III, V, and VI *(except VI-B whic must be completed regardless)*. Complete a items if no label has been provided. Refer t the instructions for detailed item descrip tions and for the legal authorizations unde which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		NA
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP C P C P O N T I A C F I E R O A S S E M B L Y P L A N T O F G M C

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 G A M O O R E P L A N T E N G I N E E R	3 1 3 8 5 7 2 7 9 7

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 9 0 0 B A L D W I N

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 P O N T I A C	M I	4 8 0 5 8

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 9 0 0 B A L D W I N

B. COUNTY NAME

O A K L A N D

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 P O N T I A C	M I	4 8 0 5 8	0 6 3

CONTINUE ON REVERSE

7 3711 (specify) MOTOR VEHICLES		7 (specify)	
C. THIRD		D. FOURTH	
7 (specify)		7 (specify)	

OPERATOR INFORMATION

A. NAME

B CPC PONTIAC FIERO ASSEMBLY PLANT GMC

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC (other than federal or state), O = OTHER (specify)

P (specify)

D. PHONE (area code & no.) A 313 857 2797

E. STREET OR P.O. BOX

900 BALDWIN

F. CITY OR TOWN

B PONTIAC

G. STATE MI

H. ZIP CODE 48058

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
9 N MI0027804	9 P
B. UIC (Underground Injection of Fluids)	**E. OTHER (specify)**
9 U NA	9 (specify)
C. RCRA (Hazardous Wastes)	**E. OTHER (specify)**
9 R MID005356910	9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

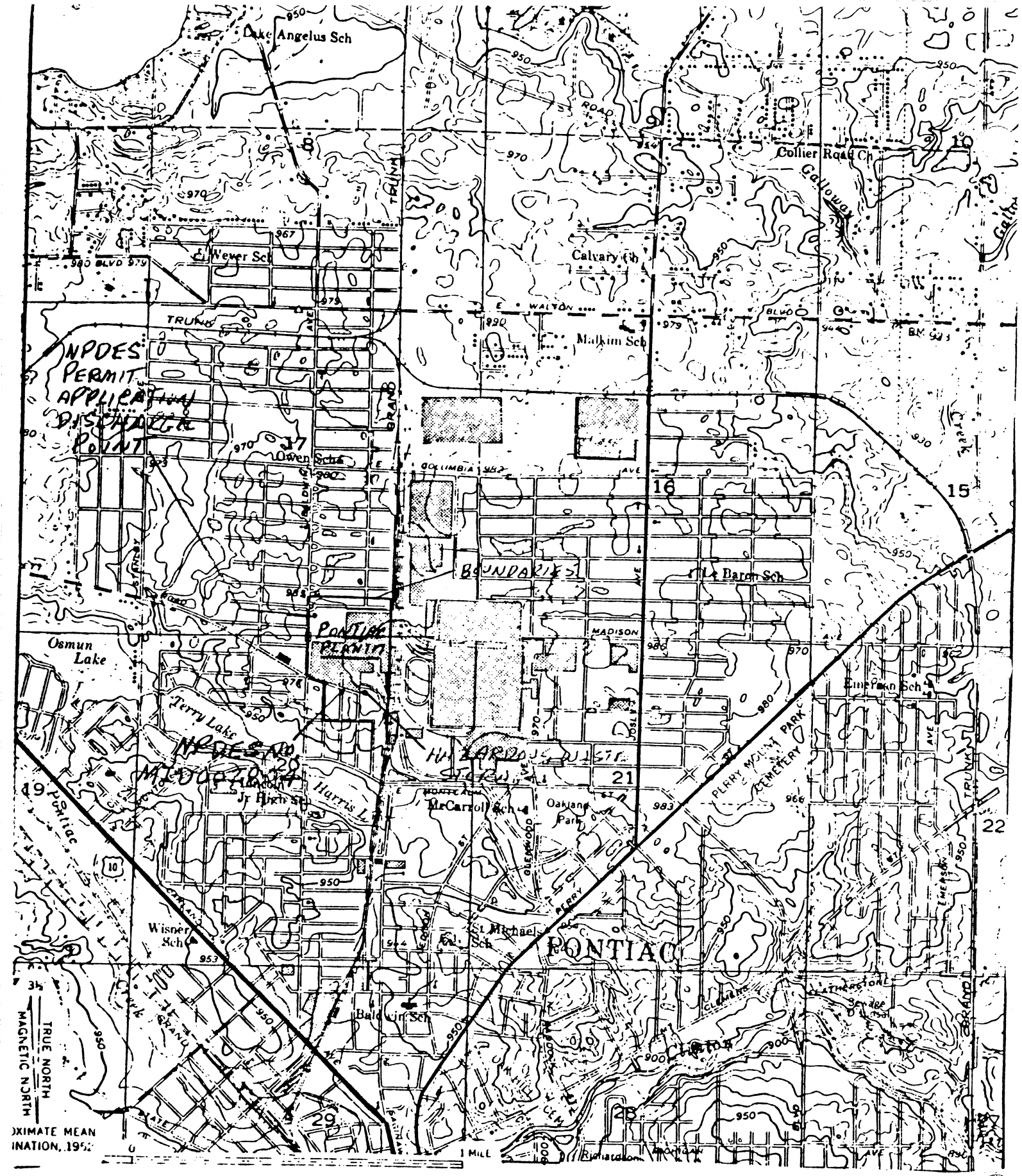
PRODUCTION OF AUTOMOBILES

XIII. CERTIFICATION (see instructions)

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Acting Plant Manager	T. F. Klaus	2/21/86

COMMENTS FOR OFFICIAL USE ONLY


NPDES PERMIT APPLICATION DISCHARGE POINT
PONTIAC PERMIT
BOUNDARIES
MEADOWBROOK
Lake Angelus Sch
Collier Road Ch
Calvary Ch
Malkim Sch
Owen Sch
Le Baron Sch
Emerson Sch
Osmun Lake
Terry Lake
Jr High Sch
McCarroll Sch
Oakland Park
PERRY MOUNT PARK CEMETERY
Wisner Sch
St Michaels Sch
PONTIAC
Baldwin Sch
Richardson
TRUNK
COLUMBIA AVE
MADISON AVE
WALTON BLVD
PERRY
GRAND
Galloway
Harris L
Creek
1 MILE
1 KILOMETER
0 2000 3000 4000 5000 6000 7000 FEET
MAGNETIC NORTH
TRUE NORTH
CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL
SCALE 1:24000
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON 25, D. C.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUE

FORM 3 RCRA | EPA

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F M I D 0 0 5 3 5 6 9 1 0

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

☐ 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

C	8	YR.	MO.	DAY

☐ 2. NEW FACILITY (Complete item below.)

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION (place an "X" below and complete Item I above)

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

	C	D	U	P										T/A	C	1			

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S01	18,700	G		7				
2	S02	12,000	G		8				
3					9				
4					10				

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

EPA I.D. NUMBER (enter from page 1)

| | | |

EPA I.D. NO. (enter from page 1)
F M T 0 0 5 3 5 6 9 1 0 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
4 2 3 9 4 1 N	0 8 3 1 7 4 0 W

VIII. FACILITY OWNER

X A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

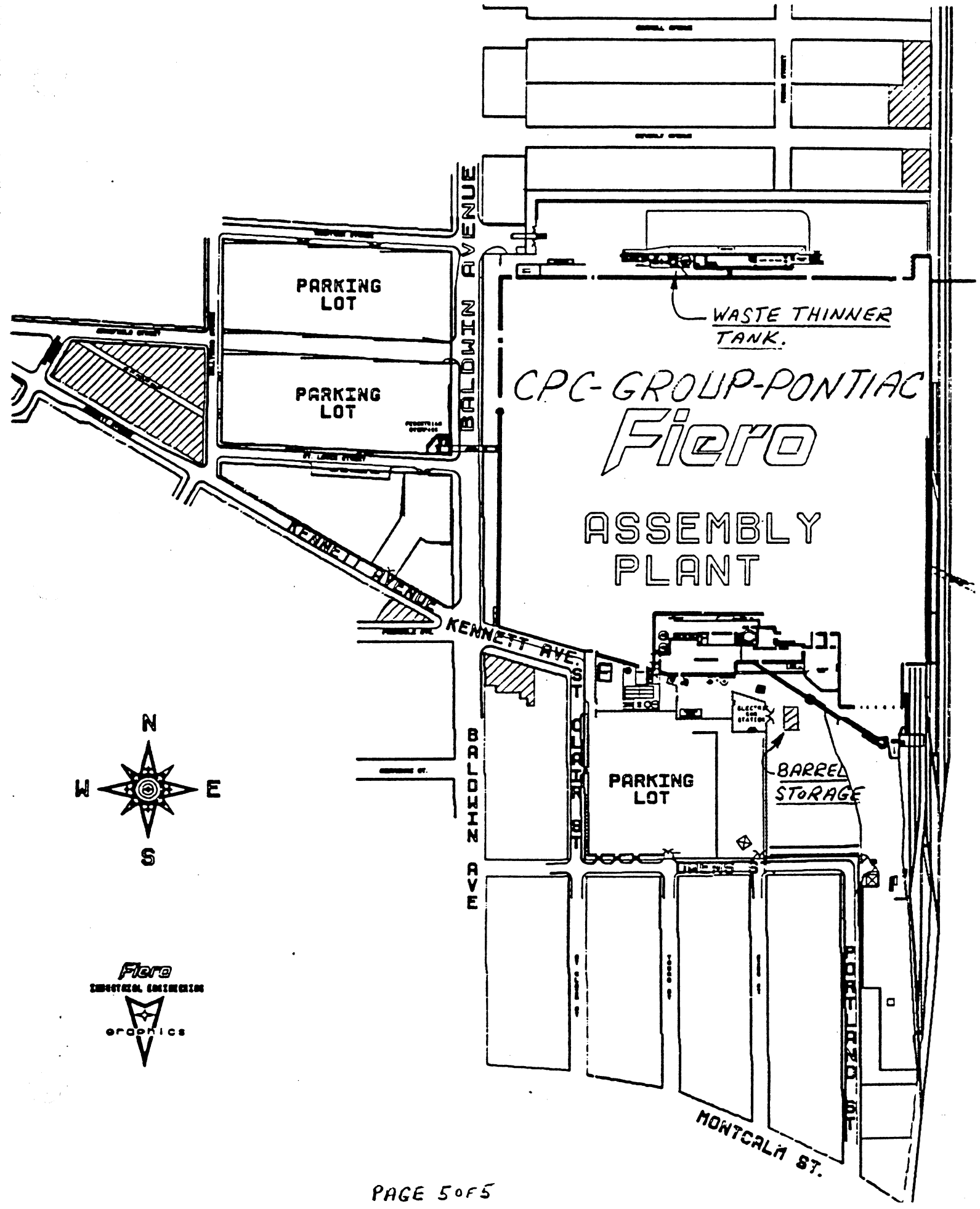
This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
F.L. Slaughter	F. L. Slaughter	2/21/86

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED


PARKING LOT
PARKING LOT
BALDWIN AVENUE
KENNETT AVENUE
KENNETT AVE.
ST. CLAIR ST.
BALDWIN AVE
WASTE THINNER TANK.
CPC-GROUP-PONTIAC
Fiero
ASSEMBLY PLANT
PARKING LOT
BARREL STORAGE
MONTCALM ST.
N
W
E
S
Fiero
ergonics

C-7

Chevrolet · Pontiac · Canada Group
Pontiac Fiero Plant
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48058 · 3487

November 4, 1987

Mr. Steven Blayer
Environmental Engineer
Michigan Department Of Natural Resources

RE: REVISION OF PART "A" - RCRA PERMIT FOR GMC - CPC FIERO PLANT
MID005356910

Dear Mr. Blayer,

PLEASE REVISE PART A - RCRA PERMIT MID005356910 AS FOLLOWS:

Change the facility mailing address from 900 Baldwin, Pontiac, MI. 48055 to One Pontiac Plaza, Pontiac, MI. 48058.

REVISE FORM 3 - PART IV - DESCRIPTION OF HAZARDOUS WASTES AS FOLLOWS:

1. Add line 3 - F003 - 10 - T - S01

   Waste solvents containing Acetone are now generated.

2. Add line 4 - F001 - 2 - T - S01

   1,1,1, - Trichloroethane is now generated as a Spent Degreaser Waste.

3. A new Drum Storage Area has been constructed and the location is shown on Page 5 of 5. The new area is constructed of concrete; contained and has the same storage capacity (370 Drums) as the former area.

G. A. Moore
Superintendent
CPC - Fiero Assembly
Plant Engineering

GAM/dh

cc: R. Kieft - PMD
W. Collinson - E.A.S.
L. Garey - C.P.C. Headquarters
F. Heiman
E. Ardiente - U.S. EPA - Region V

RCRA

Form Approved OMB No. 158-R0175

EPA

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

GENERAL

I. EPA I.D. NUMBER: F M I D 0 0 5 3 5 6 9 1 0

II. FACILITY NAME

III. FACILITY MAILING ADDRESS

IV. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (*the area to the left of the label space lists the information that should appear*), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (*except VI-B which must be completed regardless*). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	MARK 'X' NO	MARK 'X' FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility (*either existing or proposed*) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		N.A.
D. Is this a proposed facility (*other than those described in A or B above*) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing; within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: CPC PONTIAC FIERO ASSEMBLY PLANT OF GMC

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 G A MOORE PLANT ENGINEER	313 857 2797

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 ONE PONTIAC PLAZA

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 PONTIAC	MI	48058

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 900 BALDWIN

B. COUNTY NAME

OAKLAND

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 PONTIAC	MI	48058	063

VII. SIC CODES (4-digit, in order of priority)

A. FIRST: 3711 (specify) MOTOR VEHICLES

B. SECOND: (specify)

C. THIRD: (specify)

D. FOURTH: (specify)

VIII. OPERATOR INFORMATION

A. NAME: CPC PONTIAC FIERO ASSEMBLY

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)
P (specify)

D. PHONE (area code & no.): A 313 857 2797

E. STREET OR P.O. BOX: 900 BALDWIN

F. CITY OR TOWN: PONTIAC

G. STATE: MI

H. ZIP CODE: 48058

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): N MI0027804

B. UIC (Underground Injection of Fluids): U N.A.

C. RCRA (Hazardous Wastes): MID005356910

D. PSD (Air Emissions from Proposed Sources): P

E. OTHER (specify): (specify)

E. OTHER (specify): (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

PRODUCTION OF AUTOMOBILES

XIII. CERTIFICATION (see instructions)

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
PLANT MANAGER	X Richard L. Wirick	11-6-87

COMMENTS FOR OFFICIAL USE ONLY

Form Approved OMB No. 158-S800.4

J RCRA

EPA HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F M I D 0 0 5 3 5 6 9 1 0

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

☐ 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

C 8	YR.	MO.	DAY

☐ 2. NEW FACILITY (Complete item below.)

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION (place an "X" below and complete Item I above)

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. PROCESS DESIGN CAPACITY – 1. AMOUNT – Enter the amount.

2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR OR GALLONS PER HOUR OR LITERS PER HOUR
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U

UNIT OF MEASURE	UNIT OF MEASURE CODE
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H

UNIT OF MEASURE	UNIT OF MEASURE CODE
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	18,700	G		7				
2	S 0 2	12,000	G		8				
3					9				
4					10				

Continued from the front.

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four—digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four—digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non—listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous wastes: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non—listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non—listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
X-1	K054	900	P	T03 D80	
	002	400	P	T03 D80	
X-3	D001	100	P	T03 D80	
X-4	D002				included with above

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)

W	M	I	D	0	0	5	3	5	6	9	1	0

FOR OFFICIAL USE ONLY

W	DUP	2	DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D001	68	T	S01	
2	F005	400	T	S02	
3	F003	10	T	S01	
4	F001	2	T	S01	
5					
6					
7					
8					
9					
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11					
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26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

ontinued from the front.

[illegible] OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. *(enter from page 1)*

														V/A	C
2	M	E	D	0	0	5	3	5	6	9	1	0			6
										12		14	15		

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground–level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

[illegible]CILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*						LONGITUDE *(degrees, minutes, & seconds)*					
4	2	3	9	4	1 W	0	8	3	1	7	4	0	W
15	16	17	18	19	20	21	22	23	24	25	26	27	28

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	C G		

X. OWNER CERTIFICATION

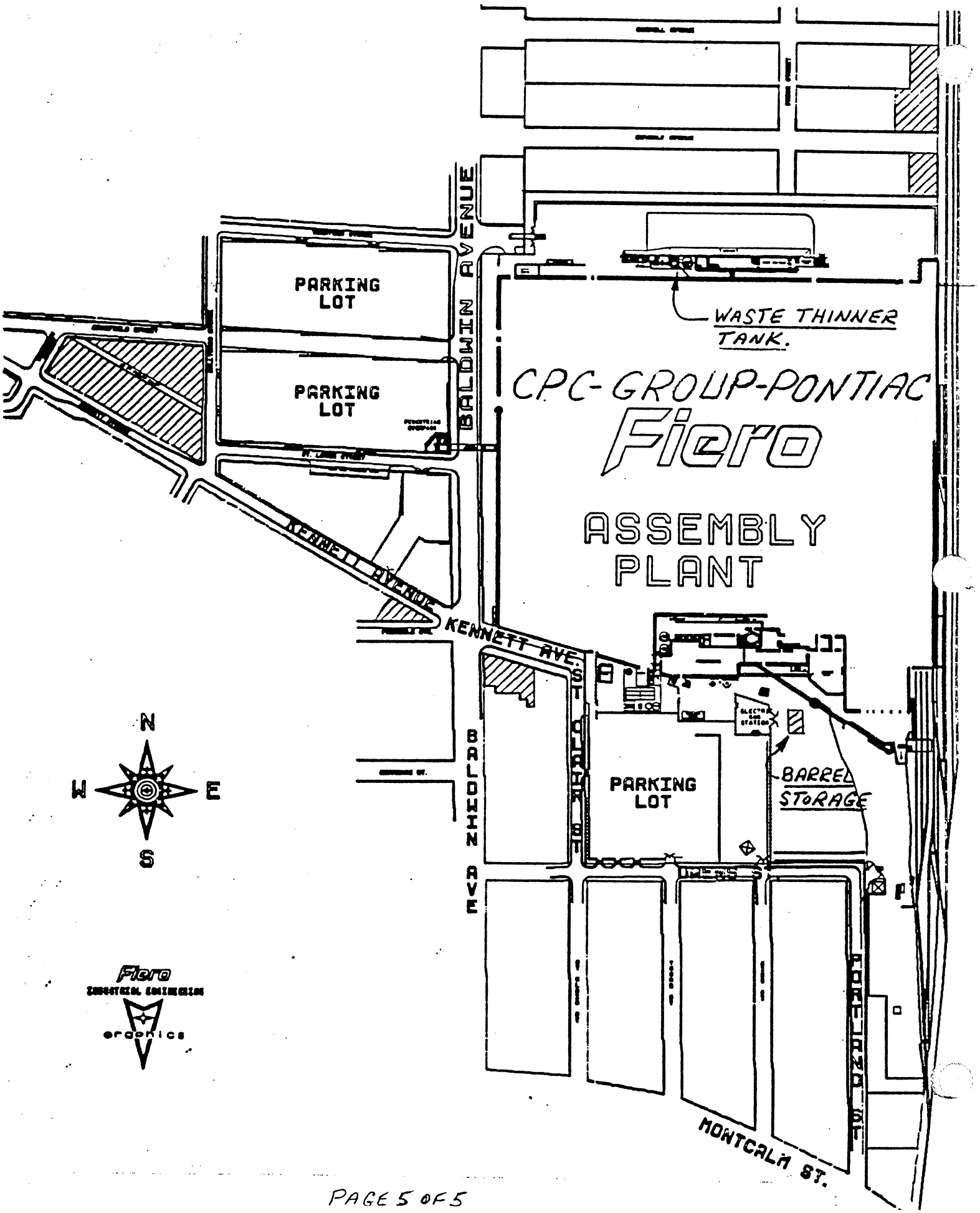
This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
R.L. McKINNON	X Richard L. McKinnon	11-6-87

[illegible] OPERATOR CERTIFICATION

certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached [illegible]ts, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the [illegible]d information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, [illegible]cluding the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED


PARKING LOT
PARKING LOT
BALDWIN AVENUE
WASTE THINNER TANK.
CPC-GROUP-PONTIAC
Fiero
ASSEMBLY PLANT
KENNETT AVENUE
KENNETT AVE.
ST. CLAIR ST.
BALDWIN AVE
PARKING LOT
BARREL STORAGE
MONTCALM ST.
N
W
E
S
Fiero
ergonics

C-8

NATURAL RESOURCES COMMISSION
THOMAS J. ANDERSON
MARLENE J. FLUHARTY
KERRY KAMMER
O. STEWART MYERS
DAVID D. OLSON
[illegible]OND POUPORE

FLAWL

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

GORDON E. GUYER, Director

November 30, 1987

Mr. Gerald A. Moore
Plant Manager
General Motors, C-P-C Fiero Assembly
One Pontiac Plaza
Pontiac, Michigan 48058

Dear Mr. Moore:

SUBJECT: GM C-P-C Fiero Assembly
MID 005 356 910
Revised Part A Application

Your revised Part A application, which we received November 4, 1987, has been reviewed and the following changes have been approved:

1. The facility mailing address has been changed to One Pontiac Plaza, Pontiac, Michigan, 48058.

2. Waste types F001 and F003 have been added to Form 3 of the Part A application. These wastes will be stored in containers.

Please provide Waste Management Division with engineering plans for the new container storage area so we can determine whether the area is adequate to store all of the waste types listed in the Part A application.

If you have questions, please contact Mr. Stephen Blayer, the environmental engineer in charge of the review, at 517-373-7739.

Sincerely,

Alan J. Howard

Alan J. Howard, Chief
Waste Management Division
517-373-9523

cc: Mr. Rich Traub, U.S. EPA - Region V
Ms. Marilyn Sabadaszka, U.S. EPA - Region V
Mr. Ken Burda, WMD/C&E File
Mr. Stephen Blayer, WMD
Ms. Lynne King, WMD, Northville

Appendix D

D-1 Part A Permit Application (November 1980) (GM, 1980f)
D-2 Letter to USEPA, re: Withdrawal of Part A Permit Application (GM, 1982b)
D-3 Letter to GM, re: Withdrawal of Part A (Non-Hazardous Waste) (USEPA, 1983)
D-4 Letter to GM re: Foundry Waste Classification (MDNR, 1983c)
D-5 Letter to GM, re: MID 085470102 (MDNR, 1983d)

D-1

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F MI D 0 8 5 4 7 0 1 0 2

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area*(s)* below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or discharge to **waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		N/A
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: GMC CENTRAL FOUNDRY DIV., PONTIAC PLANT

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 HORENZIAK CHRIS PROJ ENGINEER	313 857 6435

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 PO BOX 900

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 PONTIAC	MI	48056

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 701 GLENWOOD

B. COUNTY NAME

OAKLAND

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 PONTIAC	MI	48056	

CONTINUE ON REVERS

AIR POLLUTION PERMITS

PERMIT NO.

15-67
16-67
231-69
21-70
42-71
240-71
143-72
191-72
85-73
105-73
226-73
238-73
255-73
316-73
37-74
254-74
200-75
419-75
229-76
381-77
382-77
512-77
848-77
100-78
101-78
233-78
460-78
481-78
508-78
103-78
1045-78
10-79
258-79
344-79
367-79
EPA-5-A 79-18
666-79
697-79
802-79
486-80

Please print or type in the unshaded areas only
(Fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F M I D 0 8 5 4 7 0 1 0 2

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR.	MO.	DAY
68	- -	- -

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A C

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S01	150	Y		7				
	T04	150	Y		8				
3					9				
4					10				

ntinued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list. *Form Approved OMB No. 158-S80004*

EPA I.D. NUMBER (enter from page 1)		FOR OFFICIAL USE ONLY	
M I D 0 8 5 4 7 0 1 0 2	T/A: C: 1	S: W DUP	T/A: C: 2 DUP

V. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D 0 0 6	11762	T	S 0 1 T 0 4	
2					
3					
4					
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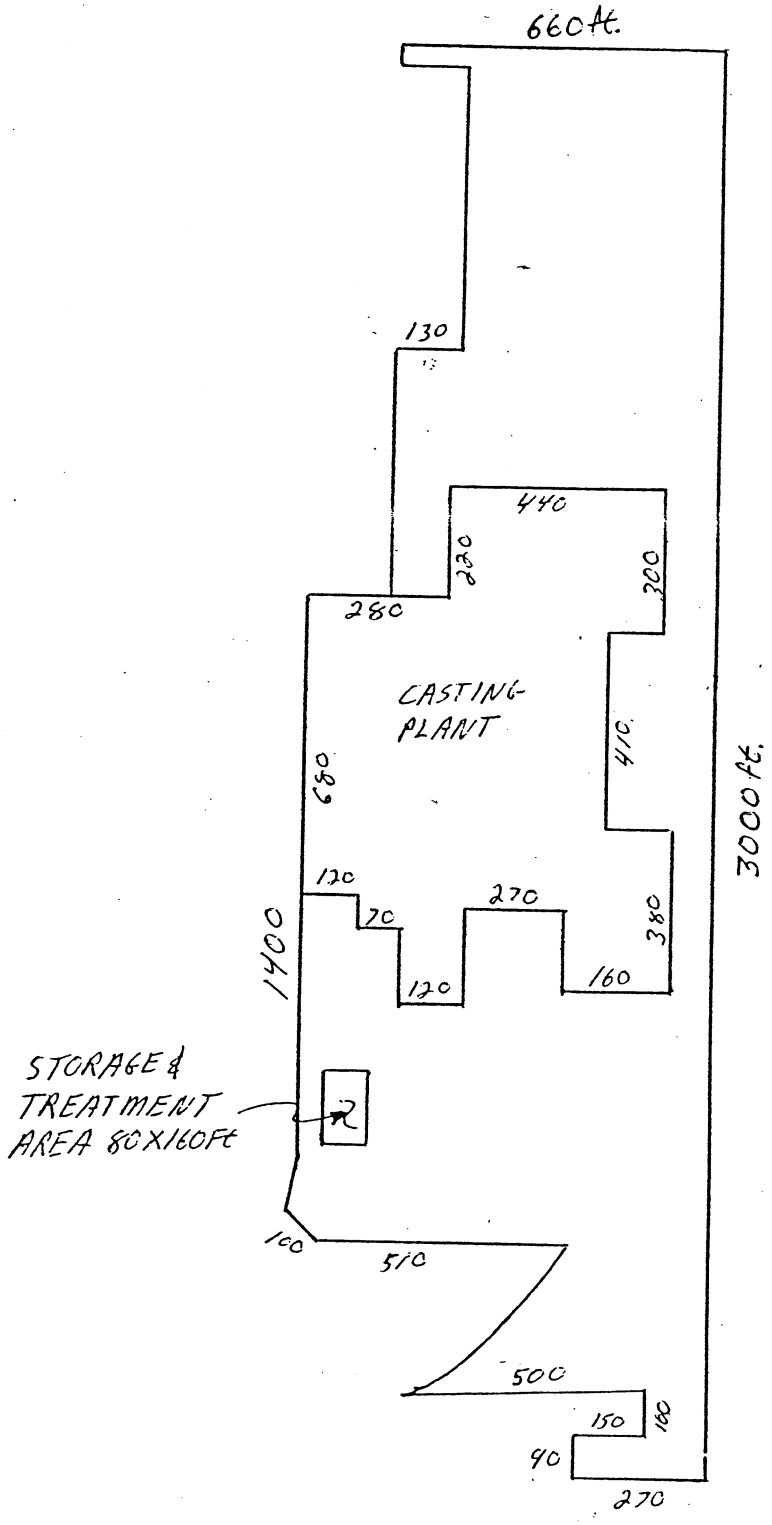
26					

Form Approved OMB No. 158-S80004

V. FACILITY DRAWING *(see page 4)*



SCALE: 1 INCH = 400 FEET

D-2

Division of General Motors Corporation
Divisional Offices
77 W. Center St., Box 1629
Saginaw, Michigan 48605

T. R. Wiltse
General Manager

July 12, 1982

Valdas Adamkus
Regional Administrator
U.S. EPA, Rgion V
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Adamkus:

A Part A - RCRA permit application was filed on November 17, 1980, for the following facility:

GMC Central Foundry Division - Pontiac Plant
701 Glenwood Avenue
Pontiac, Michigan 48056
ID # MID085470102

The only waste listed on the attached application (code D006) is dust collected in baghouses on the facility's electric arc melt furnaces. At the time of filing, the dust appeared to be hazardous under the D006 code.

On July 28, 1980, an EPA contractor visited our facility to collect samples of wastes which included the dust described above. The attached letter of February 13, 1981, from David Friedman, Manager Waste Analysis Program, U.S. EPA, Washington, D.C., to Robert Herr, the Plant Manager for the facility at that time, states: "The samples collected at your foundry did not meet the definition of an Extraction Procedure Toxicity hazardous waste (40 CFR Part 261.24)." Our data in the attached consultant's report on May 20, 1982 shows that the quality of the dust was similar to the previous EPA findings.

Based on the above information, we request that the subject application be withdrawn.

Very truly yours,

T. R. Wiltse

BCC: J.B. MEDVED
W. COLLINSON, GMCAS
W. FORD, CFD PONTIAC

Please print or type in the unshaded areas only
(all areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA — EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
HAZARDOUS WASTE PERMIT APPLICATION
Consolidated Permits Program
(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: M I D 0 8 5 4 7 0 1 0 2 (T/A: 1)

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*: YR. 6 8 | MO. - ! - | DAY - -

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN: YR. | MO. | DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.
1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOU GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP (T/A: 1)

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G	
X-2	T 0 3	20	E	
1	S 0 1	150	Y	
2	T 0 4	150	Y	
3				
4				
5				
6				
7				
8				
9				
10				

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

T 0 4 Physical Treatment

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

ntinued from page 2.
OTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1): M I D 0 8 5 4 7 0 1 0 2

FOR OFFICIAL USE ONLY: W | DUP | 2 | DUP

V. DESCRIPTION OF HAZARDOUS WASTES (continued)

NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D006	11762	T	S01 T04	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

CONTINUE ON REVERSE

EPA Form 3510-3 (6-80)

...use "A", "B", "C", or "D" on the "3" of multiply photocopied pages)

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. *(enter from page 1)*

F	M	I	D	0	8	5	4	7	0	1	0	2	T/N	6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

existing facilities must include photographs *(aerial or ground–level)* that clearly delineate all existing structures; existing storage, ...atment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
42 33 18 N	083 16 05 W

VIII. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
T.R. Wiltse	T.R. Wiltse	11-17-80

X. OPERATOR CERTIFICATION

...rtify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached ...uments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the ...mitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
N/A		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF SOLID WASTE

Feb 13 1981

OFFICE OF WATER
AND WASTE MANAGEMENT

Mr. Robert Herr
Central Foundry Division
701 North Glenwood
Pontiac, MI 48056

Dear Mr. Herr:

On July 28, 1980 our contractor visited your company's foundry at 701 North Glenwood, Pontiac, Michigan 48056 and collected samples of

A. Dry Solids from quencher equipped Cupola Venturi
B. Dry Solids from Electric Arc baghouse
C. Dry Solids from quencher equipped Electric Arc Venturi.

These samples were collected for use in determining if emmissions control residuals from gray and ductile iron foundries are hazardous wastes within the meaning of Section 3001 of the Resource Conservation and Recovery Act of 1976 (PL 94-580).

Upon analyzing these samples we obtained the results shown in the attachment. The samples collected at your foundry did not meet the definition of an Extraction Procedure Toxicity hazardous waste (40 CFR Part 261.24).

A report is being prepared summarizing the results of this sampling program. This report will not identify which specific foundries were sampled. When the report is ready for public distribution, I will have a copy sent to you for your comments.

Again let me thank you for the assistance and cooperation you gave us in this study. If you have any questions concerning these results or if I can assist you in any other way, please feel free to call me at 202-755-9187.

Sincerely,

David Friedman

David Friedman
Manager
Waste Analysis Program
Waste Characterization Branch
Hazardous and Industrial Waste Division (WH-565)

Enclosure

DATA FROM CENTRAL FOUNDRY

	Composition (mg/Kg)			EP Extract Concentration (mg/L)		
	(A)	(B)	(C)	(A)	(B)	(C)
Aluminum	>60	4621	>60	0.45	22.6	0.54
Arsenic	67.2	299	519	0.33	1.99	0.44
Boron	BD	1323	BD	0.41	4.26	BD
Barium	75.9	96.4	963	0.56	0.69	0.39
Beryllium	1.29	BD	5.60	BD	BD	BD
Calcium	7291	12097	BD	122	146	41.8
Cadmium	42.2	134.13	3.60	0.381	1.319	0.23
Cobalt	BD	109	43.3	BD	0.37	BD
Chromium	165	1548.23	425.63	0.049	0.097	0.069
Copper	265	>30	1.38	BD	BD	BD
Iron	>3000	BD	>30	3.97	BD	>30
Magnesium	2225	2452	>30	13.6	13.3	2.57
Molybdenum	BD	BD	BD	0.34	BD	BD
Nickel	33.4	367	35.5	0.24	0.72	0.50
Lead	2648	6213.53	95.93	0.51	1.69	BD
Antimony	505	201	400	0.70	8.70	2.44
Vanadium	7.29	31.6	7.33	BD	0.55	BD
Zinc	>30	>30	555	>30	12.1	9.82

Clayton Environmental Consultants, Inc.

ARC FURNACE BAGHOUSE DUST EP TOXICITY STUDY

CENTRAL FOUNDRY DIVISION
GENERAL MOTORS CORPORATION
Pontiac, Michigan

CEC Job No. 11823-381-EMS

May 20, 1981

ARC FURNACE BAGHOUSE DUST EP TOXICITY STUDY

CENTRAL FOUNDRY DIVISION
GENERAL MOTORS CORPORATION
Pontiac, Michigan

CEC Job No. 11828-381-EMS

Clayton Environmental Consultants, Inc.

1.0 INTRODUCTION

The General Motors Corporation (GMC) retained Clayton Environmental Consultants, Inc. (CEC) to conduct an Extraction Procedure (EP) Toxicity Evaluation Study on two hopper dust catches from the west baghouse which services the five arc melt furnaces and surrounding areas at the Central Foundry Division (CFD), Pontiac, Michigan facility. The purpose of the project was to determine the EP Toxic metals content within the dust collected by the baghouse.

The testing program consisted of collecting a representative dust sample from each baghouse hopper catch during the third working day of each week and mixing the two samples into a single sample in a ratio determined by CFD. The single sample was then analyzed with reference to the U.S. Environmental Protection Agency (EPA) Test Procedures found in the Federal Register, May 19, 1980. Subsequently the analysis was expanded to include additional toxic substances referenced in Michigan Act 64 Rules, February 5, 1981. The sampling program was to have lasted four consecutive weeks, but due to the foundry not operating for one week, the sampling program lasted five weeks.

Ms. Patricia A. Brogan of CEC conducted the sampling on April 1, 15, and 29, 1981, and Mr. Kris Simonian of CEC conducted the sampling on April 8, 1981. Technical assistance and coordination was provided by Mr. Chris Horenziak, GMC, Central Foundry Plant Engineering.

2.0 PRESENTATION OF RESULTS

Table 2.1 presents the EP and Michigan Toxic contaminant concentrations for the samples acquired from the west baghouse at the East and West hopper catches and mixed in a ratio of 1 East: 2 West. Concentrations are expressed as parts per million (ppm). EP Toxic metals include arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. Michigan Act 64 Rules adds zinc, copper, and cyanide as contaminants.

In all the samples, arsenic, chromium, lead, mercury, silver and cyanide were less than the analytical limit of detection (LOD). Since total chromium, tested below the LOD, the samples were not analyzed for hexavalent chromium, as per the instructions of Mr. Joe Chu of the General Motors Corporation Environmental Services Staff. The barium concentration was 22, 4.7, 3.2, and 6.1 ppm; the selenium concentration was 0.02 ppm in three tests and below the LOD in one test; the copper concentration was 0.1 ppm in one test and below the LOD in three tests; the zinc concentration was 0.44, 23, 16, and 20 ppm; the cadmium concentration was 0.18, 0.17, 0.37 and 1.2 ppm. The cadmium concentration of 1.2 exceeds the U.S. EP Toxic metal limit. In no other case was the US or Michigan Toxic contaminant allowable limit exceeded.

TABLE 2.1 EP TOXIC CONTAMINANTS OF BAGHOUSE SAMPLES (ppm)

Sample Number	Date 1981	As	Ba	Cd	Cr	Pb	Hg	Sc	Ag	Cu[a]	Zn[a]	Cyanide(s)[a]
1	4-1	<0.01	22	0.18	<0.2	<0.2	<0.01	0.02	<0.05	<0.1	0.44	<0.05
2	4-8	<0.01	4.7	0.17	<0.2	<0.2	<0.01	0.02	<0.05	<0.1	23	<0.05
3	4-15	<0.01	3.2	0.37	<0.2	<0.2	<0.01	<0.01	<0.05	0.1	16	<0.05
4	4-29	<0.01	6.1	1.2	<0.2	<0.2	<0.01	0.02	<0.05	<0.1	20	<0.05
EP and Michigan Toxic Contaminant Allowable Limit		5.0	100	1.0	5.0	5.0	0.2	1.0	5.0	100	500	20

Facility: General Motors Corporation, Central Foundry Division, Pontiac, Michigan.

[a]Unique to Michigan Toxic Contaminant Standards.

3.0 DESCRIPTION OF FACILITY

The Central Foundry Division of General Motors Corporation at its Pontiac, Michigan facility, has five electric arc furnaces which are used to melt scrap metal. Gases from the five furnaces and the surrounding areas are exhausted into a baghouse collection system through a common duct. The duct has a damper which separates the gases from the three furnaces in the west area of the building from gases from the two furnaces in the east area. When the damper is open, waste gases from all five furnaces mix, enter the baghouse system together, and eventually the dust is collected in either of two hoppers, East or West. However, the damper is usually closed, in which case the waste exhaust dust from the three west furnaces collects in the West baghouse hopper, and the dust from the two east furnaces collects in the East baghouse hopper.

4.0 SAMPLING AND ANALYTICAL PROCEDURES

Two representative samples of baghouse dust were collected on the third working day of each week, one from the baghouse East hopper and one from the baghouse West hopper, for four weeks. The samples were collected in clean glass jars with Teflon lined lids. In the laboratory, the two samples were mixed in a ratio of 1 East: 2 West, as per the instructions of Mr. Chris Horenziak, GMC, Central Foundry Plant Engineering. Each sample for metal was extracted for 24 hours in water maintained at pH 5, filtered, and digested in acid as per EP Extraction Procedure Toxicity 40 CFR 261.24. The sample was then analyzed for metal components by atomic absorption spectroscopy. The sample to be analyzed for cyanide was processed in the same manner through to the filtering step and was then analyzed by a colorimetric procedure.

This report prepared by:

Patricia A. Brogan
Technical Writer

Kristopher Simonian
Environmental Technician

Timothy J. Palmer
Group Leader
Emission Measurement Services

This report reviewed by:

Richard J. Walcott, C.I.H. Date: May 28, 1981
Assistant Manager IH Services

LABORATORY ANALYSIS REPORT

Submitted to: General Motors Corporation
Central Foundry Division
One Pontiac Plaza
Pontiac, Michigan 48056
Attn: Chris Horenziak

Report date: 24 November 1980

Certified by:

Arthur Mitchell
Manager of Inorganic Studies

Nancy F. Enloe
Corporate Quality Control Manager

Sample received: 20 October 1980

ERG project number: 7011

Results are shown on the following page.

ENVIRONMENTAL RESEARCH GROUP, INC. · 117 N. FIRST · P.O. BOX 322
ANN ARBOR · MICHIGAN 48107 TELEPHONE 313/662-3104

ERG sample number:	AA55153	
Sample description:	Arc Melt Furnace Dust 10/17/80	
Parameters and units	Results	detection limit
silicon (mg/kg)	69,000	
iron (mg/kg)	200,000	
cadmium (mg/kg)	24	
chromium (mg/kg)	1,400	
nickel (mg/kg)	410	
silver (mg/kg)	24	
manganese (mg/kg)	25,000	
magnesium (mg/kg)	1,500	
zinc (mg/kg)	5,000	
aluminum (mg/kg)	3,900	
tin (mg/kg)	470	
beryllium (mg/kg)	ND	1.0
arsenic (mg/kg)	61	
copper (mg/kg)	4,800	
Total	311.589 g/kg	

All results are reported on a dry weight basis.

ND = non-detectable

24,5 Tons/day

CLOW
HYDRO RESEARCH SERVICES
Water Management Division
Clow Corporation

General Motors Corporation
Central Foundry Division
Pontiac Plant
P.O. Box 900
Pontiac, MI 48056
Attn: Mr. Chuck Peters

December 22, 1980

Additional work done on sample received 11-12-80.

Arc Dust

HYDRO NO:	43607A	43607
CUST. ID:	80-SW905 Waste as received, mg/kg	EPA Leachate Procedure 80-SW905, mg/l
Arsenic, As	73	< 0.0005
Barium, Ba	81	0.10
Cadmium, Cd	81	0.65
Chromium, Total, Cr	1,200	< 0.002
Lead, Pb	11,000	0.40
Mercury, Hg	0.10	< 0.0002
Selenium, Se	< 0.1	0.0095
Silver, Ag	36	< 0.002

100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. Final pH after the addition of 29 mls of 0.5N acetic acid was 5.1.

CLOW
HYDRO RESEARCH SERVICES
Water Management Division
Clow Corporation
408 Auburn Avenue
Pontiac, MI 48058
313 334-1630
313 334-4747

Save this report

General Motors Corporation
Central Foundry Division
Pontiac Plant
P.O. Box 900
Pontiac, MI 48056
Attn: C. Peters

Date: 7-24-80

Arc Dust

EPA Leachate Procedure

HYDRO NO:	39947	39948	39949	39950
CUST. ID:	SW 901-80	SW 902-80	SW 903-80	SW 904-80
Samples received	7-9-80	7-9-80	7-10-80	7-10-80
Arsenic, As, ug/l	< 0.8	< 0.8	< 0.8	< 0.8
Barium, Ba, mg/l	0.15	0.10	0.10	0.04
Cadmium, Cd, mg/l	< 0.002	< 0.002	< 0.002	< 0.002
Chromium, Total, Cr, mg/l	< 0.002	< 0.002	< 0.002	< 0.002
Lead, Pb, mg/l	< 0.02	< 0.02	< 0.02	< 0.02
Selenium, Se, ug/l	7.3	8.6	3.5	< 0.5
Mercury, Hg, ug/l	< 0.2	< 0.2	< 0.2	< 0.2

Linda Carey/Manager
Analytical Services

CFD - PONTIAC

SUMMARY OF LEACHING TESTS[1] AND TOTAL COMPOSITIONAL ANALYSIS

Parameter	USEPA Limit (mg/l)	Furnace Dust (RMT Sample)		Furnace Dust SW 901-80		Furnace Dust SW 902-80		Furnace Dust Mixture[2] SW 903-80		System Sand SW 904-80		Vacuum Belt Cake (EPA Sample)[3]	Arc Dust (EPA Sample)[3]	Slag Waste (EPA Sample)[3]	Composite (EPA) Sample)[3]
		Prien & Newhof 10/1/79	RMT 8/25/80	Clow 7/24/80	RMT 8/25/80	Clow 7/24/80	RMT 8/25/80	Clow 7/24/80	RMT 8/25/80	Clow 7/24/80	RMT 8/25/80	RMT 9/18/80	RMT 9/18/80	RMT 9/18/80	RMT 9/18/80
Arsenic	5.0	<0.002	-	<0.8	-	<0.8	-	<0.8	-	<0.8	-	-	-	-	-
Barium	100.0	0.41	-	0.15	-	0.10	-	0.10	-	0.04	-	-	-	-	-
Cadmium	1.0	1.35	1.78	<0.002	1.41	<0.002	1.43	<0.002	.72	<0.002	0.06	0.62	1.95	0.03	0.03
Chromium	5.0	<0.03	-	<0.002	-	<0.002	-	<0.002	-	<0.002	-	-	-	-	-
Lead	5.0	0.33	2.1	<0.02	0.6	<0.02	1.5	<0.02	3.6	<0.02	0.4	2.4	1.3	<0.1	<0.1
Mercury	0.2	0.0025	-	<0.0002	-	<0.0002	-	<0.0002	-	<0.0002	-	-	-	-	-
Selenium	1.0	<0.002	-	0.0073	-	0.0086	-	0.0035	-	<0.5	-	-	-	-	-
Silver	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	-	5.1	5.17	-	5.14	-	5.04	-	5.0	-	4.6	4.75	4.97	5.20	4.98
% Solids	-	-	99.7	-	99.7	-	99.7	-	99.3	-	94.3	60.0	98.7	85.2	97.4
Ttl Cadmium[4]	-	-	106 mg/kg	-	88.5 mg/kg	-	74.1 mg/kg	-	62.3 mg/kg	-	1.77 mg/kg	38 mg/kg	136 mg/kg	1.4 mg/kg	1.7 mg/kg
Total Lead[4]	-	-	7872 mg/kg	-	6723 mg/kg	-	6751 mg/kg	-	7069 mg/kg	-	186 mg/kg	2995 mg/kg	7860 mg/kg	104 mg/kg	211 mg/kg

(1) Leaching tests conducted according to 40 CFR 261 Appendix II.
(2) Mixture of furnace dust and system sand.
(3) Samples collected by USEPA on 8/18/80.
(4) Total lead and cadmium given as dry weight basis.

Residuals Management Tech.
October 1, 1979
79167

AFS TEST RESULTS

GMCF - PONTIAC

#4 - FURNACE DUST

PARAMETER (mg/l)	DAY 1		DAY 3		DAY 6	
	No pH	pH 5	No pH	pH 5	No pH	pH 5
Arsenic	< 0.002	< 0.002	-	-	-	-
Barium	0.38	1.35	-	0.70	-	0.38
Cadmium	1.72	6.69	< 0.01	0.53	< 0.01	0.06
Chromium	< 0.02	< 0.02	-	-	-	-
Lead	0.14	21.0	0.12	1.03	< 0.03	< 0.03
Mercury	0.0088	0.0021	0.0042	0.0027	< 0.0002	< 0.0002
Selenium	< 0.002	< 0.002	-	-	-	-
Cyanide	< 0.01	0.01	-	-	-	-
Zinc	16.3	167	< 0.01	25.8	< 0.01	3.05
Manganese	34.7	75.5	1.12	24.5	0.14	8.67
Copper	0.06	0.12	-	-	-	-
Nickel	0.09	1.01	-	0.17	-	< 0.03
Iron	26.1	534	0.11	154	0.07	3.21
Fluoride	31.0	55.0	14.5	26.5	20.0	16.4
Chlorides	560	553	56.2	49.0	53.8	12.2
pH	5.5	5.0	7.1	5.1	7.8	5.6

Residuals Management Tech.
October 1, 1979
79167

EP TEST RESULTS

GMCF - PONTIAC

#4 - FURNACE DUST

PARAMETER (mg/l)	No pH	pH 5
Arsenic	< 0.002	< 0.002
Barium	0.25	0.41
Cadmium	0.77	1.35
Chromium	< 0.03	< 0.03
Lead	< 0.04	0.33
Mercury	0.0008	0.0025
Selenium	< 0.002	< 0.002
pH	5.8	5.1

D-3

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

Received your info & folder W.C.C

REPLY TO ATTENTION OF:

RCRA ACTIVITIES

MAR 29 1983

Mr. T. R. Willis, General Manager
GMC Central Foundry Division
P. O. Box 1629
Saginaw, Michigan 48605

RE: Withdrawal of Part A
(Non-Hazardous Waste)
FACILITY NAME: GMC Central Foundry Division-Pontiac Pla
USEPA ID No.: MID 085 470 102

Dear Mr. Willis:

This to acknowledge that the United States Environmental Protection Agency (USEPA) has completed it review of your Part A Hazardous Waste Permit Application and your letter of July 12, 1982, requesting the withdrawal of your permit application. According to the information which you have submitted, the wastes which are treated, stored or disposed at your facility are not defined as a hazardous waste in 40 CFR 261.3. It is the opinion of this office, based on the information submitted that your facility is not required to have a hazardous waste permit under Section 3005 of the Resource Conservation and Recovery Act at this time. Please be advised that you must still comply with any applicable State and local requirements.

You will retain your USEPA Identification number if you notified that the facility is a generator or transporter of a hazardous waste.

Please contact the Technical, Permits and Compliance Section at (312) 353-2197 for assistance if you have any questions. Please refer to "Withdrawal of Part A (Non-Hazardous Waste)," in all telephone contacts and correspondence.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

cc: Chris Horenziak, Project Engineer
MDNR

APPROVED
APPROVED AS NOTED
REVIEWED
RETN'D FOR CORRECTION
MAR 31 1983
CENTRAL FOUNDRY DIVISION G.M.
BY

D-4

JUL 1983

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
JACOB A. HOEFER
E. M. LAITALA
HILARY F. SNELL
PAUL H. WENDLER
HARRY H. WHITELEY

James J. Blanchard, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909
HOWARD A. TANNER, Director

Groundwater Quality Division
Detroit District Office
1120 S. State Fair Ave.
Detroit, MI 48203
(313) 368-3335

June 29, 1983

M. T. Tahy
Central Foundry
Div. of GM
Pontiac Plant
P.O. Box 900
Pontiac, MI 48056

RE: GM Foundry Waste Classification

Dear M. T. Tahy:

A partial review has been conducted of your waste characterization study Act 641, Rule 103(h)(viii) reads:

> (h) "Inert materials" means substances that will not decompose, dissolve, or in any other way form a contaminated leachate upon contact with water or other liquid perculating through them when disposed of on land and includes all of the following:
>
> (viii) Other materials designated by the director
> Rule 105 (b)(ii) classifies landfills

"Type III" means an on-land disposal facility designed and operated to accomodate large volumes of certain solid waste having minimal potential for groundwater contamination.

Section 7(1) "Solid waste" means garbage, rubbish, ashes, incinerator ash, incinerator residue, street cleanings, municipal and industrial sludges, solid commercial and solid industrial waste and animal waste, but does not include human body waste, liquid or other waste regulated by statute, ferrous or nonferrous scrap directed to a scrap metal processor or to a reuser of ferrous or nonferrous products, and slag or slag products directed to a slag processor or to a reuser of slag or slag products.

Section 6(4) "Slag" means the non metallic product resulting from melting or smelting operations for iron or steel.

Based on the above definitions, and your waste characterization, the following are classified:

TYPE II

Wastewater Treatment Sludge
Miscellaneous Sweepings and Cleanings (composite)
Cold Box Core Waste (cured)
Hot Box Core Waste (cured)

Cold Box Core Waste (uncured)
Hot Box Core Waste (uncured)
Spent Furnace & Ladle Refactories

TYPE III

Cupola Bottom Drop
Popcorn Slag
Composite Furnace & Ladle Slag

Slags can be exempted from Act 641 regulations by directing it to a slag processor or a reuser of slag or slag products. Type III wastes may be disposed of in a Type III Landfill specifically designed for that waste or a Type II Landfill.

INERT

Finishing Hopper Sand
Finishing Room Scrap Pit
Block Shakeout Hopper Sand
Power-free Hopper Sand

The Arc Melt Emission Control Dust is a listed hazardous waste under Act 64. Its classification number is K061. Unless this material has been exempted by DNR Hazardous Waste Division it must be disposed of as a hazardous waste as defined by Act 64.

As per our conversation, June 24, 1983, you were referred to Joan Peck, Hazardous Waste Division, to further discuss their designation of your waste.

All wastes classified as a Type III must be tested annually or after any change in process chemistry. Results must be submitted to this office for review. Also, include in these results, the name and location of the Type III Landfill accepting these wastes.

For further correspondence contact me at my office (313) 368-3335.

Very truly yours,
GROUNDWATER QUALITY DIVISION

H. Shakir

Hakim Shakir, Supervisor
DETROIT DISTRICT OFFICE

HS:pf
cc: Dave Dennis
Ron Grimes
Lynne King
Ken Burda
Joan Peck

D-5

Chris

STATE OF MICHIGAN

URAL RESOURCES COMMISSION
ACOB A. HOEFER
. M. LAITALA
HILARY F. SNELL
PAUL H. WENDLER
HARRY H. WHITELEY

James J. Blanchard, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

Hazardous Waste Division
Detroit District Office
1120 W. State Fair Ave.
Detroit, MI 48203
(313) 368-3335

July 11, 1983

File GMP

CFD - Pontiac

GMC Central Foundry Div.
Pontiac Plant
701 Glenwood
Pontiac, MI 48056

EPA ID No: MID 085470102

Attention: Bill Ford, Environmental Coordinator

Dear Mr. Ford:

This letter is to confirm our telephone conversation of July 6, 1983.

The last DNR staff inspection was conducted at your facility on August 18, 1982 to evaluate for compliance to the Resource Conservation and Recovery Act (RCRA) as amended. At that time it was verified that the company had submitted a request for withdrawal of your Part A Hazardous Waste Permit Application on July 12, 1982. Based on the information submitted, it was acknowledged by the U.S. EPA that, in their opinion your facility is not required to have a permit under Section 3005 of RCRA at this time. We have a copy of this acknowledgement on file. You stated during our phone conversation that there has been no change in hazardous waste activity at your facility since the time of your permit withdrawal. It was indicated that you do not generate, treat store nor dispose of any other hazardous waste at this site. Therefore, staff of the Michigan Department of Natural Resources will not be conducting the 1983 annual compliance inspection.

Please be advised, however, that if your facility at any time in the future generates a regulated quantity of hazardous waste as per 40 CFR Part 261 you are subject to full regulation under Parts 262 through 265 and Parts 122 and 124 of Chapter I and the notification requirements of Section 3010 of RCRA, as applicable. Also, your last waste analysis was done, according to our records in July 1980. This analysis should be repeated as necessary to ensure that it is accurate and up to date. It should also be repeated when there is reason to believe that the process or operation generating the waste or the wastestream has changed.

If you hve questions and/or concerns regarding the above matter or hazardous waste management in general please feel free to contact me at (313) 368-3335.

Sincerely,
HAZARDOUS WASTE DIVISION

Laura L. Lodisio

Laura L. Lodisio
DETROIT DISTRICT OFFICE

LLL:pf
cc: U.S. EPA J. Bohunsky K. Burda

Appendix E

E-1 Notification of Hazardous Waste Activity (GM, 1980b)
E-2 Part A Permit Application (November 1980) (GM, 1980g)
E-3 Letter to USEPA, re: Notification of Hazardous Waste (GM, 1980i)
E-4 Letter to USEPA, re: Petition to Delist Wastewater Sludge (GM, 1981b)
E-5 Letter to GM, re: Temporary Delisting of Wastewater Sludge (GM, 1982a)
E-6 Letter to GM, re: Interim Status Acknowledgement (USEPA, 1982b)
E-7 Part A Permit Application (September 1982) (GM, 1982c)
E-8 Letter to GM, re: Redesignation of Waste (MDNR, 1983a)
E-9 Part A Permit Application (March 1984) (GM, 1984a)
E-10 Part A Permit Application (June 1985) (GM, 1985b)
E-11 Part A Permit Application (January 1986) (GM, 1986a)
E-12 Part A Permit Application (March 1986) (GM, 1986d)
E-13 Part A Permit Application (April 1986) (GM, 1986f)
E-14 Letter to GM, re: Intent to Deny Petition to Delist Wastewater Sludge (USEPA, 1986)
E-15 Part A Permit Application (September 1986) (GM, 1986h)
E-16 Letter to USEPA, re: MID 005356886 (GM, 1986i)
E-17 Letter to USEPA, re: MID 005356886 (GM, 1987a)
E-18 Part A Permit Application (August 1987) (GM, 1987f)
E-19 Letter to USEPA, re: MID 005356886 (GM, 1987h)

E-1

PONTIAC

263

November 18, 1980

EPA Regional Administrator
United States Environmental
Protection Agency, Region V
230 South Dearborn Street
Chicago, Illinois 60604

Re: Notification of Hazardous Waste
Activity for Pontiac Motor Division
One Pontiac Plaza
Pontiac, Michigan 48053
EPA ID No. MID005356886

Dear Sir:

Subsequent to our submission to your office of EPA Form 8700-12 on August 12, 1980, it has come to our attention that certain information was inadvertently omitted from our Notification of Hazardous Waste Activitiey (EPA Form 8700-12).

Pursuant to advice General Motors received from EPA personnel in Washington, we are requesting that the EPA Form 8700-12 submitted for the facility identified above be modified to reflect the hazardous waste activities shown below. Please note that this facility has been assigned an EPA identification number.

The following information was inadvertently omitted:

Part 261. - Subpart D - Lists of Hazardous Wastes.
Waste Type F012 should have been included on the notification.

Please incorporate this additional information on EPA Form 8700-12 for this facility. If you have any questions, please contact M. A. Cunningham at (313) 857-1115.

W. E. HOGLUND
General Manager

KJM/rgvg

NOV 19 1980

E-2

PONTIAC

November 18, 1980

United States Environmental
Protection Agency, Region V,
230 South Dearborn Street
Chicago, Illinois 60604

In accordance with Regulations Promulgated under Section 3001 of the Resource Conservation & Recovery Act of 1976, attached is the RCRA Hazardous Waste Permit Application - Part A - for Pontiac Motor Division of General Motors Corp. The EPA I.D. number for this facility is MID005356886.

Any questions regarding the Permit Application should be addressed to Mr. M. A. Cunningham of our Plant Engineering Department. His telephone number is (313) 857-1115.

W. E. HOGLUND
General Manager

print or type in the unshaded areas only. Use elite type, i.e., 12 characters/inch. Read the instructions before completing this form.

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

1	2											13	14	15
F	M	I	D	0	0	5	3	5	6	8	8	6		D

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
C. Is this a facility which currently results in discharges to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		N/A
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	X		X
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: GMC PONTIAC MOTOR DIVISION PONTIAC

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 CUNNINGHAM MICHAEL ASST SUPT	313 857 1115

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 1 PONTIAC PLAZA

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 PONTIAC	MI	48053

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 1 PONTIAC PLAZA

B. COUNTY NAME

OAKLAND

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 PONTIAC	MI	48053	

CONTINUE ON REVERSE

CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
3465 (specify) AUTOMOTIVE JOB STAMPINGS	C 7311 (specify) ASSEMBLY OF PASSENGER CARS
C. THIRD	**D. FOURTH**
14 (specify) MOTOR VEHICLE PARTS + ACCESSORIES	C 7 (specify)

II. OPERATOR INFORMATION

A. NAME: GMC PONTIAC MOTOR DIVISION PONTIAC

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)
P (specify)

D. PHONE (area code & no.): C A 313 857 1115

E. STREET OR P.O. BOX: PONTIAC PLAZA

F. CITY OR TOWN: PONTIAC

G. STATE: MI

H. ZIP CODE: 48053

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): T I N/A	D. PSD (Air Emissions from Proposed Sources): C T I 9 P N/A
B. UIC (Underground Injection of Fluids): T I U N/A	E. OTHER (specify): C T I 9 (specify) SEE ATTACHED LIST
C. RCRA (Hazardous Wastes): T I P N/A	E. OTHER (specify): C T I 9 (specify)

M. Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

I. NATURE OF BUSINESS (provide a brief description)

ASSEMBLY OF PASSENGER CARS AND MANUFACTURE OF MOTOR VEHICLE PARTS AND COMPONENTS

II. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
J.R. HOGLUND DIVISION MANAGER	W E Hoglund	11/18/80

COMMENTS FOR OFFICIAL USE ONLY

PONTIAC MOTOR DIVISION

LIST OF AIR POLLUTION PERMITS

Michigan Permit Number:

20-80	299-79	470-78	43-77
46-80	300-79	554-78	51-77
47-80	641-79		94-77
820-80	704-79		169-77
	874-79		184-77
	901-79		185-77
			270-77
			270-77A
251-76	179-75	291-74	442-77
254-76	217-75	394-74	473-77
293-76			662-77
293-76A			663-77
294-76			664-77
359-76			665-77
			666-77
			667-77
93-73	97-72	20-70	668-77
386-73	232-72		669-77
431-73			670-77
			671-77
			672-77
			673-77
			674-77
			677-77
			691-77

(If areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

													T/A	C
1	M	I	D	0	0	5	3	5	6	8	8	6		1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS
23	24 - 29	

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)* (71)

[ ] 2. NEW FACILITY *(Complete item below.)* (71)

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C	YR.	MO.	DAY
8	26		
15	73 74	75 76	77 78

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY
73 74	75 76	77 78

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS (72)

[ ] 2. FACILITY HAS A RCRA PERMIT (72)

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

| | | | | | | | | | | | | |

nued from the front.

D. PROCESSES (continued)

SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

T04- BARREL WASHING

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER – Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY – For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE
POUNDS	P
TONS	T

METRIC UNIT OF MEASURE	CODE
KILOGRAMS	K
METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate **all** the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.
2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				Included with above

nued from page 2.
E: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)		FOR OFFICIAL USE ONLY	
1 1 0 0 0 5 3 5 6 8 8 6	T/A: 1	W DUP	T/A: 2 DUP

DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	F001	30	T	S01 S04 T02	
2	F002	4937	P	S01	
3	F003	4937	P	S01	
4	D001				INCLUDED WITH ABOVE
5	F005				INCLUDED WITH ABOVE
6	F006	12,000	T	S01 S04 T02	
7	F012				INCLUDED WITH ABOVE
8	F018				INCLUDED WITH ABOVE
9	F007	748,000	T	S01 T01 S04	
10	F008	500	T	S01 S04 T02	
11	F009	235,500	T	S01 S04 T01	
12	F010	12	T	S01 S04 T02	
13	F011	5	T	S01 T01	
14	F017	700	T	S01 S02 S04 000	
15	D002	89,760	P	T01	
16	P030	450	T	S04 T04 T01	
17	P029				INCLUDED WITH ABOVE
18	P106				INCLUDED WITH ABOVE
19					
20					
21					
22					
23					
25					
26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

...ued from the front.

D. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

LINE 14: T01 T02

EPA I.D. NO. *(enter from page 1)*

1	2	3	4	5	6	7	8	9	10	11	12	13	T/A 14	C 15
F	M	I	D	0	0	5	3	5	6	8	8	6		6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground–level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*						LONGITUDE *(degrees, minutes, & seconds)*					
15–16	17–18	19–20	21–22	23		25–26	27–28	29–30	31–32	33	
42	38	02	N			083	17	05	W		

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	C G		

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
W. E. HOGLUND GENERAL MANAGER	WEH	11/18/80

X. OPERATOR CERTIFICATION

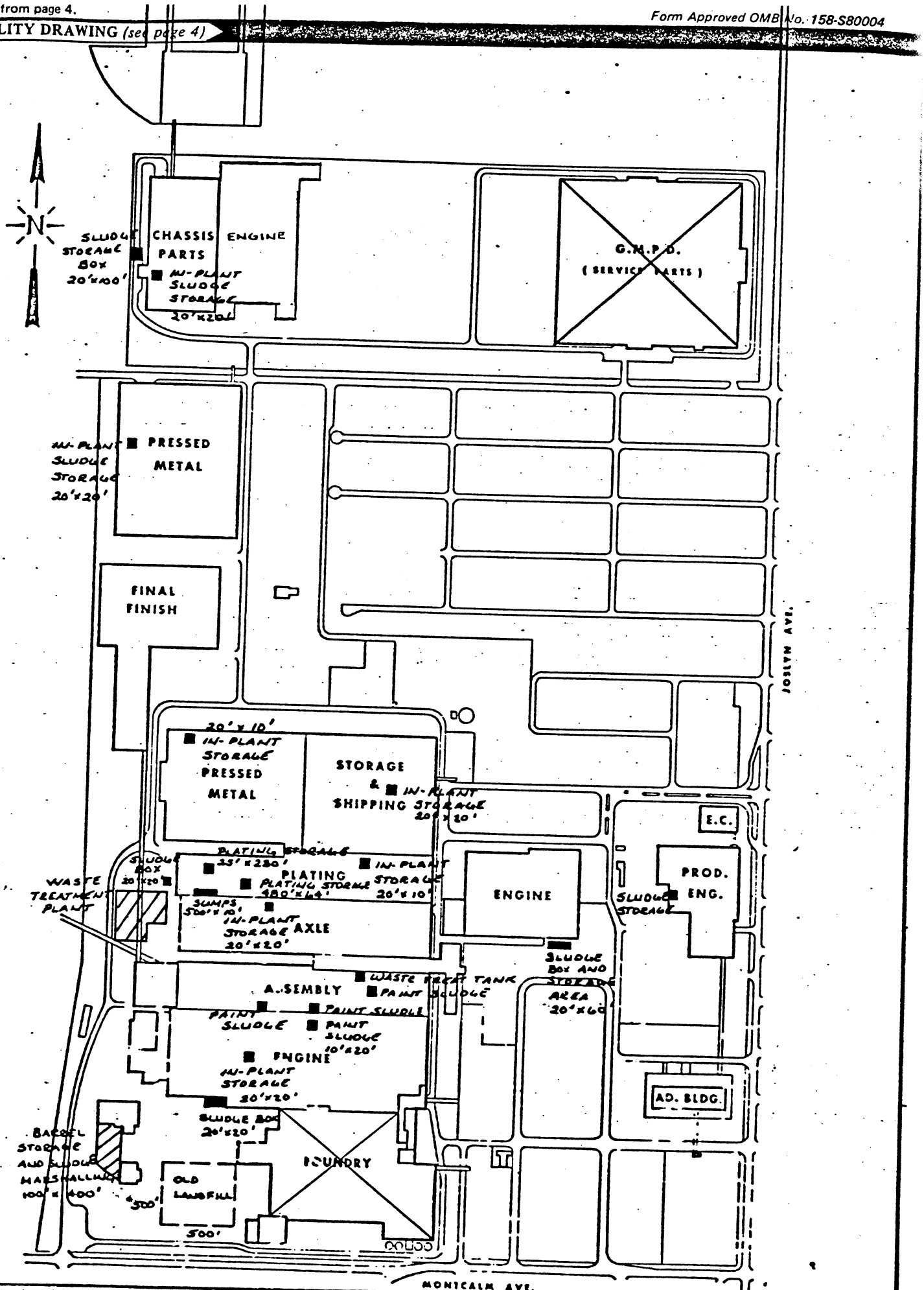
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED

Continued from page 4.

Form Approved OMB No. 158-S80004

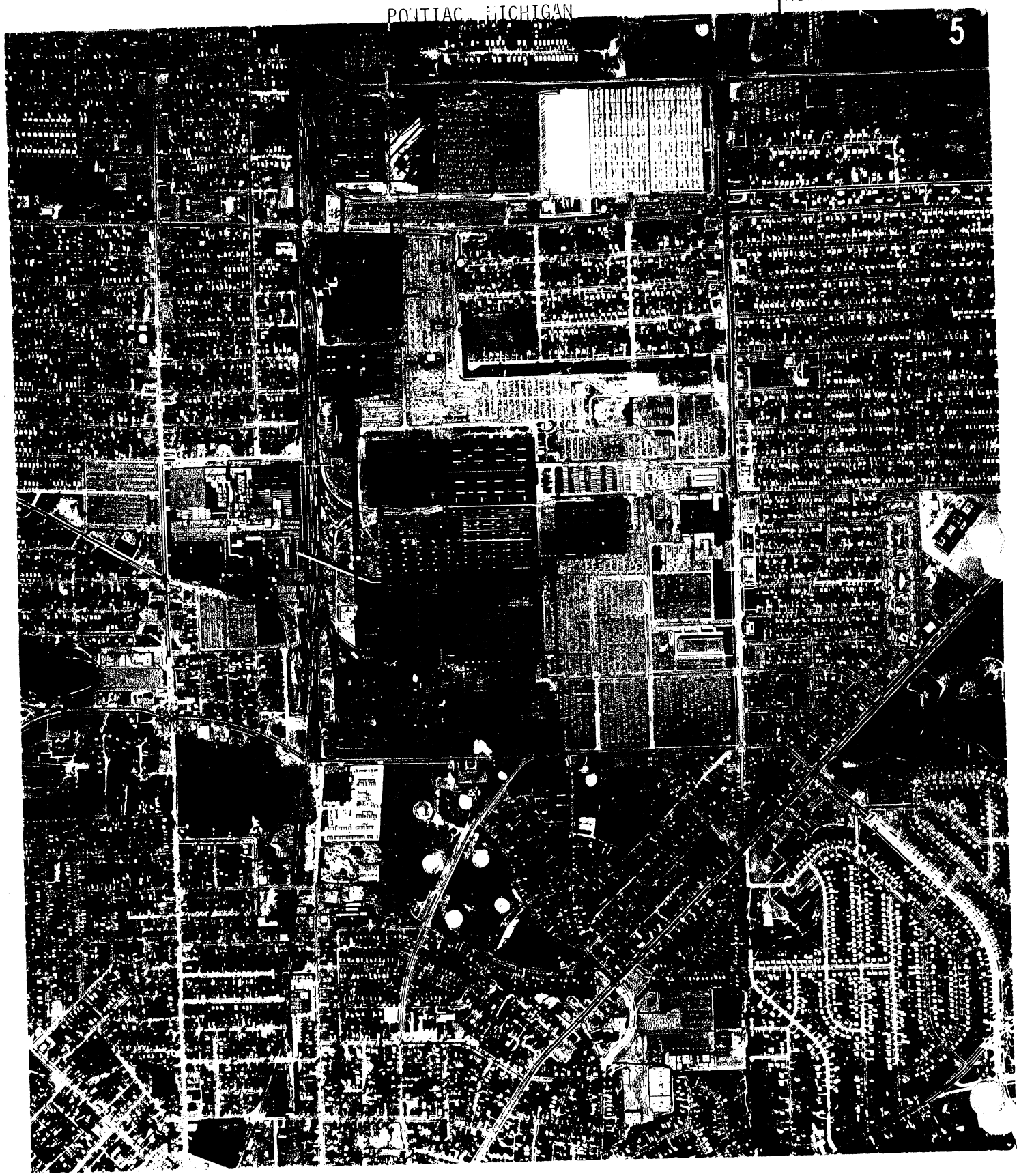
FACILITY DRAWING (see page 4)



PONTIAC MOTOR DIVISION

PONTIAC, MICHIGAN

NORTH



E-3

ONTIAC

August 8, 1980

United States Environmental
Protection Agency, Region V
RCRA Activities
P. O. Box 7861
Chicago, Illinois 60680

In accordance with regulations promulgated under Section 3001 of the Resource Conservation and Recovery Act of 1976, attached is the Notification of Hazardous Waste Activity - EPA Form 8700-12, for Pontiac Motor Division of General Motors Corporation.

Please call us at the telephone number listed below if you require further information.

M. A. Cunningham

M. A. CUNNINGHAM, P.E.
Assistant Superintendent
Plant Engineering Design
(313) 857-1115

D. G. Upton

D. G. UPTON
General Manufacturing Manager

AUG 12 1980

PONTIAC MOTOR DIVISION
GENERAL MOTORS CORPORATION

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

ADDITIONAL DESCRIPTION OF HAZARDOUS WASTES

C. Commercial Chemical Product Hazardous Wastes

U075	U135	U188
U080	U146	U196
U117	U151	U211
U121	U154	U220
U122	U159	U226
U123	U161	U228
U128	U165	U229
U134	U169	U239

AUG 12 1980

E-4

file GMP
Pontiac Mot

THE MARK OF GREAT CARS

September 15, 1981

Ms. Anne M. Gorsuch
Administrator
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460

RE: PETITION TO DELIST WASTEWATER SLUDGE

Dear Ms. Gorsuch:

A petition for a regulatory amendment is hereby made to exclude the wastewater treatment sludge produced at our Pontiac plant from listing as a hazardous waste. The informational requirements for the petition as set forth in 40 CFR Part 260 Subpart C (45 FR 33073, May 19, 1980) are addressed in the attached report. This petition to delist the sludge is based upon the determination that this particular material does not meet the criteria under which it was listed.

The waste requested for delisting is wastewater treatment sludge from electroplating operations identified as EPA Hazardous Waste Number F006. The basis for listing as indicated in Appendix VII of Part 261 (45 FR 33131, May 19, 1980) is the presence of cadmium, chromium, nickel, and cyanide (complexed). As shown in Table 1 of the accompanying report, the concentrations of these constituents is well below the levels utilized for determining Extraction Procedure (DP) Toxicity.

The certification statement required for the petition is attached. If you have any questions, or require additional information, please feel free to contact me at any time. We appreciate your prompt consideration in this matter.

Sincerely,

Valory Strausser

Valory Strausser
Plant Engineering-Design

VS/rgvg

PETITION FOR EXCLUSION

WASTE WATER TREATMENT SLUDGE F006

PONTIAC MOTOR DIVISION
GENERAL MOTORS CORPORATION

August 25, 1981

PETITION FOR EXCLUSION

I N D E X

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Clow's Field Notes	17 - 20
Clow's Methodology	21
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Clow's Instrumentation	25 - 27
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CERTIFICATION STATEMENT*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

By
Plant Manager

*The source of the statement is 40 CFR Part 260 Subpart C Section 260.22(i)(12) (45 FR 33077, May 19, 1980).

GENERAL INFORMATION

The purpose of this report is to petition to exclude F006 Wastewater Treatment sludge generated from electroplating operations at Pontiac Motor Plant, One Pontiac Plaza, Pontiac, Michigan, from being listed as a Hazardous Waste.

Pontiac Motor Plant is engaged in automobile manufacturing and assembly. EPA Permit number is MID 005356886.

The Laboratory that completed the sampling and analysis of the waste F006 was Hydro Research Services, Clow Corporation, Water Management Division. Items such as: (1) names, (2) qualifications of personnel, (3) dates of sampling and testing, (4) sampling methods, (5) sampling handling and preparation, (6) analytical methods, (7) instruments, (8) and results can be found on the information sheets provided by Clow. Pages 28-35.

The sludge requested for exclusion from a hazardous classification results from the treatment of three waste water streams at Pontiac's Wastewater Treatment Plant.

The sludge is a clay-like gray material with a slight greenish tint. The percent solids is 35%. The sludge is uniformly homogeneous, because of the small particle size and the use of large volume holding tanks with mixing before vacuum filtering.

The basis for listing F006 is code (T) from Appendix VII, 40 CFR Part 261, RCRA.

F006 - Cadmium
Chromium
Nickel
Cyanide (complexed)

The average volume generated

Per month - 770 yd^3

Per year - 9,210 yd^3

The maximum volume generated

Per month - 1,110 yd^3

Per year -13,320 yd^3

Disposal Site Information

The disposal site used prior to November 19, 1980 for the F006 waste was Wayne Disposal, Dearborn, Michigan. The disposal site that Pontiac Motor Division uses presently for the F006 is Wayne Disposal. The disposal site for the F006 waste if the petition is granted will be Wayne Disposal.

The Industrial Waste Treament Plant began operation in 1957. Currently, volumes treated are 1.3 million gallons per day. Influent to the plant is separated into the following systems: *

CYANIDE
METALLIC-ACID
ALKALI-OILY

1. CYANIDE SYSTEM

Cyanide is oxidized to CO_2 and N_2 by alkaline chlorination using sodium hypochlorite. The pH is maintained between 9 and 10 with lime slurry. The suspended solids and metal hydroxides are precipitated in the final clarifiers.

2. METALLIC ACID SYSTEM

Influent is a mixture of copper, nickel and chromium plating wastes. Hexavalent chromium is reduced with liquid SO_2 at a pH of 2.5 to 3.0. The pH is raised to 9.5 to 10 with slime slurry in batch treatment tanks and then pumped to final clarifier for precipitation of metal hydroxides. A coagulant aid is added in line. The acid and alkali Solutions from plating are present along with painting booth waste water.

3. ALKALI-OILY SYSTEM

All solutions from parts washers and central coolant systems are treated with acid, alum, caustic and coagulant aid to remove all contaminants and oil from waste water. The oil that is removed from the system is contained in a floc which is treated to remove all oil. This oil can be reused again for manufacturing plant processes. Current volumes of the oil being reclaimed are 100,000 gallons per month. This method of oil reclamation is unique in that no sludge is formed for disposal and all chemicals used in treatment are recycled.

*Pages 3-13 are excerpted from Pontiac Motor Division's Operating Manual for Industrial Waste Treatment Plant 1980

ERAL INFORMATION

4. FINAL TREATMENT SYSTEM

Consists of three final clarifiers and sludge blending tanks and vacuum filters. Clear effluent is discharged to the Metallic system and sludge is hauled to state approved local landfill site.

AVERAGE VOLUME OF WASTES TREATED PER MONTH

Cyanide	3,000,000	Gallons
Metallic-Acid	13,000,000	"
Alkali-Oily	9,000,000	"
	25,000,000	Gallons per Month

CHEMICALS USED TO TREAT WASTEWATER PER MONTH

Lime Slurry	175,000 Gals.	Liquid Caustic	20,000 Lb
Sodium Hypochlorite	25,000 "	Sulphur Dioxide	18,000 "
Sulphuric Acid	15,000 "	Coagulant Aid	250 "
Alum	22,000 Lbs		

E-5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF SOLID WASTE

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

Ms. Valory Strausser
Plant Engineering-Design
Pontiac Motor Division
General Motors Corporation
One Pontiac Plaza
Pontiac, MI 48053

Dear Ms. Strausser,

The purpose of this letter is to indicate that the initial review of the delisting petition submitted by the Pontiac Motor Division has been completed. The Agency's Office of Solid Waste has indicated in the enclosed memorandum that the treatment sludge previously categorized as EPA Hazardous Waste No. F006, generated at your Pontiac facility is considered non-hazardous under the conditions specified. A copy of this memorandum has been sent to the Regional Office of Enforcement. Any additional letters of confirmation may be obtained from Mr. Phil Kaplan in the Regional Office. The temporary exclusion will appear in the Federal Register in mid-March.

Sincerely yours,

William G. Sproat, Jr.
Environmental Scientist
Hazardous and Industrial Waste Division

E-6

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
111 West Jackson Blvd.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:
RCRA ACTIVITIES

JUN 14 1982

Mr. Michael Cunningham
Assistant Superintendent
GMC Pontiac Motor Division
One Pontiac Plaza
Pontiac, Michigan 48053

RE: Interim Status Acknowledgement USEPA ID No. MID005356886
FACILITY NAME: GMC Pontiac Motor Division

Dear Mr. Cunningham:

This is to acknowledge that the U.S. Environmental Protection Agency (USEPA) has completed processing your Part A Hazardous Waste Permit Application. It is the opinion of this office that the information submitted is complete and that you, as an owner or operator of a hazardous waste management facility, have met the requirements of Section 3005(e) of the Resource Conservation and Recovery Act (RCRA) for Interim Status. However, should USEPA obtain information which indicates that your application was incomplete or inaccurate, you may be requested to provide further documentation of your claim for Interim Status. Our opinion will be reevaluated on the basis of this information.

As an owner or operator of a hazardous waste management facility, you are required to comply with the interim status standards as prescribed in 40 CFR Parts 122 and 265, or with State rules and regulations in those States which have been authorized under Section 3006 of RCRA. In addition, you are reminded that operating under interim status does not relieve you from the need to comply with all applicable State and local requirements.

The printout enclosed with this letter identifies the limit(s) of the process design capacities your facility may use during the interim status period. This information was obtained from your Part A Permit application. If you wish to handle new wastes, to change processes, to increase the design capacity of existing processes, or to change ownership or operational control of the facility, you may do so only as provided in 40 CFR Sections 122.22 and 122.23.

As stated in the first paragraph of this letter, you have met the requirements of 40 CFR Part 122.23; your facility may operate under interim status until such time as a permit is issued or denied. This will be preceded by a request from this office or the State (if authorized) for Part B of your application. Please contact Arthur Kawatachi of my staff at (312) 886-7449, if you have any questions concerning this letter or the enclosure.

Sincerely,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

6/14/82

Enclosure
cc: W.E. Hoglund, Gen. Mgr.

F — No file A-

EPA

ACKNOWLEDGEMENT OF NOTIFICATION OF HAZARDOUS WASTE ACTIVITY
(VERIFICATION)

This is to acknowledge that you have filed a Notification of Hazardous Waste Activity for the installation located at the address shown in the box below to comply with Section 3010 of the Resource Conservation and Recovery Act *(RCRA)*. Your EPA Identification Number for that installation appears in the box below. The EPA Identification Number must be included on all shipping manifests for transporting hazardous wastes; on all Annual Reports that generators of hazardous waste, and owners and operators of hazardous waste treatment, storage and disposal facilities must file with EPA; on all applications for a Federal Hazardous Waste Permit; and other hazardous waste management reports and documents required under Subtitle C of RCRA.

EPA I.D. NUMBER → MID005356886 REACKNOWLEDGEMENT

GMC PONTIAC MOTOR DIV
1 PONTIAC PLAZA
PONTIAC MI 48053

INSTALLATION ADDRESS →

1 PONTIAC PLAZA
PONTIAC MI 48053

EPA Form 8700-12B (4-80)

10/03/81

Please print or type with ELITE type (12 characters/inch) in the unshaded areas only. GSA No. 0246-EPA-OT

EPA U.S. ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION EPA I.D. NO.

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

III. LOCATION OF INSTALLATION

PLEASE PLACE LABEL IN THIS SPACE

000392 AUG 12 80

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

DETACH

FOR OFFICIAL USE ONLY

COMMENTS: C

INSTALLATION'S EPA I.D. NUMBER: F MID005356886 T/A 2 C 1

APPROVED: A

DATE RECEIVED (yr., mo., & day): 800812

~~GENERAL MOTORS CORP~~ GMC PONTIAC MOTOR DIV

I. NAME OF INSTALLATION

PONTIAC MOTOR DIVISION

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 3 ~~ONE~~ PONTIAC PLAZA, ~~PLTI ENG DES~~

CITY OR TOWN: 4 PONTIAC

ST.: MI

ZIP CODE: 48053

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: 5 SAME AS ABOVE

CITY OR TOWN: 6

ST.:

ZIP CODE:

IV. INSTALLATION CONTACT

NAME AND TITLE *(last, first, & job title)*: 2 CUNNINGHAM, MICHAEL, ASST. SUPT.

PHONE NO. *(area code & no.)*: 313-857-1115

V. OWNERSHIP

DETACH

NAME OF INSTALLATION'S LEGAL OWNER: 8 GENERAL MOTORS CORPORATION

B. TYPE OF OWNERSHIP *(enter the appropriate letter into box)*: M

F = FEDERAL
M = NON-FEDERAL

VI. TYPE OF HAZARDOUS WASTE ACTIVITY *(enter "X" in the appropriate box(es))*

- [X] A. GENERATION
- [X] B. TRANSPORTATION *(complete item VII)*
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION *(transporters only — enter "X" in the appropriate box(es))*

- [ ] A. AIR
- [ ] B. RAIL
- [X] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER *(specify):*

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION *(complete item C)*

C. INSTALLATION'S EPA I.D. NO.: MID005356886

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

EPA Form 8700-12 (6-80)

AUG 12 1980

CONTINUE ON REVERSE

D. – FOR OFFICIAL USE ONLY

S/W														T/A	C
W	M	I	D	0	0	5	3	5	6	8	8	6		2	1

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F001	F002	F003	F005	F006	F007
7	**8**	**9**	**10**	**11**	**12**
F008	F009	F010	F011	F017	F018

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	**20**	**21**	**22**	**23**	**24**
25	**26**	**27**	**28**	**29**	**30**

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary. (continued on attached sheet

31	32	33	34	35	36
P012	P015	P022	P029	P030	P098
37	**38**	**39**	**40**	**41**	**42**
P105	P106	P116	P119	P120	P121
43	**44**	**45**	**46**	**47**	**48**
U002	U012	U031	U044	U070	U107

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24)*

[X] 1. IGNITABLE (D001) [X] 2. CORROSIVE (D002) [X] 3. REACTIVE (D003) [X] 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
D. G. Upton	D. G. Upton General Manufacturing Manager	August 8, 1980

E-7

PONTIAC

September 13, 1982

RECEIVED
SEP 23 1982
WASTE MANAGEMENT BRANCH
EPA, REGION V

Mr. Joe M. Boyle
Waste Management Branch
U.S. EPA Region V
111 West Jackson Blvd.
Chicago, Ill. 60604

SUBJECT: MID005356886

G, T, TSD, GA

The Pontiac Motor Plant (E.P.A. facility I.D. No. MID005356886) is requesting to modify its part "A" RCRA Hazardous Waste permit application. The following points should be deleted from the original part "A" application and changes included:

III. Processes:

S01 - 220,100 gallons delete. This is caused by the removal of paint sludge from hazardous classification. The area remaining is the barrel storage area 45,000 gal.

S02 - 496,700 gallons delete. This figure included waste treatment tanks.

S04 as follows: 7,507,000 gals.

A. 3,858,000 gal. old sludge consolidation area no longer used.
B. Sumps incorrectly described as surface impoundments 3,419,000 gal.
C. Sludge consolidation waste pile area, 240,000 gal. (F006 temporary exclusion - see attached EPA letter).

T01 - 3,000,000 gal./day is the figure for the waste treatment plant exempt by rule.

T02 - 100,000 gal./day sumps were incorrectly described as surface impoundments. Also this figure includes the old sludge area no longer used.

T004 - 500 gal./day delete. Treatment is in process that goes to waste treatment plant.

IV. Description of Hazardous Wastes:
(F001, F002, F003 and F005)
All solvents are intermixed and disposed as D001.
F006 is excluded, see attached.
F012 included in F006.
F017 delisted.
F018 delisted.

RECEIVED 9/28/82

IV. Description of hazardous wastes (continued)

F007 is in process to W.T.
F008 material does not fit F008 description or any other hazardous characteristics.
F009 in process to W.T.
F011 in process to W.T.
D002 in process to W.T.
P030 in process to W.T.
P029 in process to W.T.
P106 in process to W.T.

Hazardous wastes generated at Pontiac Motor Division include:
D001 waste solvent of various make up.

Attached for your records is the part "A" application form 3510-1 and 3510-3. If you have any questions, please contact Valory Strausser (313) 857-2286.

Valory Strausser

Valory A. Strausser
Plant Engineering Design
Pontiac Motor Division

Att. 3510-1
3510-3
EPA letter

VAS/rab/bgs

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters per inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

6												7/A
F	M	I	D	0	0	5	3	5	6	8	8	6
1	2									13	14	

I. LABEL ITEMS

- I. EPA I.D. NUMBER
- II. FACILITY NAME
- V. FACILITY MAILING ADDRESS
- VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold—faced terms.**

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
C. Is this a facility which currently results in **discharges to waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		N.A.
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	X		YES
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: PONTIAC MOTOR DIVISION OF G.M.C.

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*		
2 VALORY STRAUSSER ENGINEER	313	857	2286

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 ONE PONTIAC PLAZA

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 PONTIAC	MI	48053

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 ONE PONTIAC PLAZA

RECEIVED 9/28/82

B. COUNTY NAME

OAKLAND

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 PONTIAC	MI	48053	063

EPA Form 3510-1 (6-80)

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST: 3710 (specify) MOTOR VEHICLES & EQUIPMENT

B. SECOND: (specify)

C. THIRD: (specify)

D. FOURTH: (specify)

VIII. OPERATOR INFORMATION

A. NAME: PONTIAC MOTOR DIVISION OF G.M.C.

B. Is the name listed in Item VIII-A also the owner? X YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
☐ F. FEDERAL ☐ M. PUBLIC (other than federal or state) ☐ S. STATE ☐ O. OTHER (specify) X P. PRIVATE
(specify) PRIVATE

D. PHONE (area code & no.): 313 857 2286

E. STREET OR P.O. BOX: ONE PONTIAC PLAZA

F. CITY OR TOWN: PONTIAC

G. STATE: MI

H. ZIP CODE: 48053

IX. INDIAN LAND
Is the facility located on Indian land? ☐ YES X NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): MI0042412

D. PSD (Air Emissions from Proposed Sources): N/A

B. UIC (Underground Injection of Fluids): N/A

E. OTHER (specify): (specify)

C. RCRA (Hazardous Wastes): MID005356886

F. OTHER (specify): (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

PONTIAC MOTOR DIVISION, PONTIAC IS A MANUFACTURER OF AUTOMOBILE COMPONENTS INCLUDING ENGINES, REAR AXLES, SHEET METAL STAMPINGS, AND THERMOPLASTIC MOLDINGS. ALL COMPONENTS ARE USED FOR THE MANUFACTURING AND ASSEMBLY OF AUTOMOBILES.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)
D. G. UPTON
GEN. MANUFACTURING MGR.

B. SIGNATURE: D G Upton

C. DATE SIGNED: 9-16-82

COMMENTS FOR OFFICIAL USE ONLY

EPA Form 3510-1 (6-80) REVERSE

(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

ENVIRONMENTAL PROTECTION AGENCY
HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

1	2												13	14
F	M	I	D	0	0	5	3	5	6	8	8	6		T/A

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS
23	24 - 29	

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)* (71)

C 8 (15)

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR. (73 74)	MO. (75 76)	DAY (77 78)

☐ 2. NEW FACILITY *(Complete item below.)* (71)

FOR NEW FACILITIES PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR. (73 74)	MO. (75 76)	DAY (77 78)

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☒ 1. FACILITY HAS INTERIM STATUS (72)

☐ 2. FACILITY HAS A RCRA PERMIT (72)

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

1	2												13	14	15
C														T/A	C
					D	U	P								1

LINE NUMBER	A. PROCESS CODE (from list above) (16 - 18)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify) (19 - 27)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code) (28)	FOR OFFICIAL USE ONLY (29 - 32)
X-1	S 0 2	600	G	
X-2	T 0 3	20	E	
1	S 0 1	45,000	G	
2				
3				
4				
5				
6				
7				
8				
9				
10				

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE, INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non-listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate **all** the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)														FOR OFFICIAL USE ONLY												
	W	M	I	D	0	0	5	3	5	6	8	8	6	T/A	C: 1		W	DUP			T/A	C: 2	DUP		

V. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D 0 0 1	500	T	S 0 1				
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

1 | 2 EPA I.D. NO. (enter from page 1) | 14 15

M I D 0 0 5 3 5 6 8 8 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures, existing storage, treatment and disposal areas, and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
42 38 02 N	083 17 05 W

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

☐ B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

C. NAME OF FACILITY'S LEGAL OWNER	D. PHONE NO. (area code & no.)

E. STREET OR P.O. BOX	F. CITY OR TOWN	G. ST.	H. ZIP CODE

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
D.G. UPTON Manuf. Manager	D G Upton	9-16-82

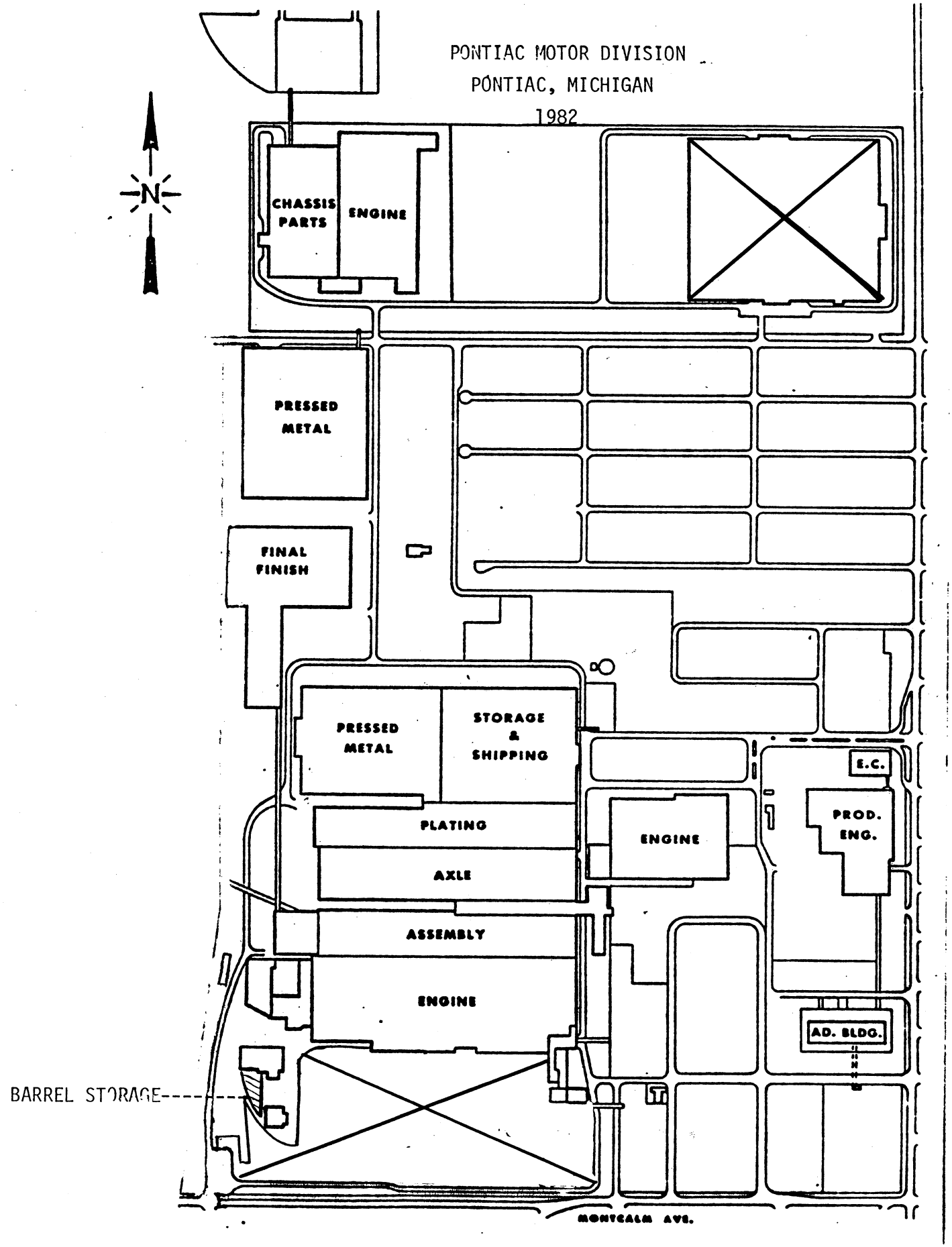
X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED

V. FACILITY DRAWING (see page 4)

Form Approved OMB No. 158-S80004



E-8

NATURAL RESOURCES COMMISSION
JACOB A HOEFER
ROBERT HOLMES
E. M. LAITALA
HILARY F. SNELL
PAUL H. WENDLER
HARRY H. WHITELEY

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909
James F. Cleary, Acting Director

June 23, 1983

Ms. V. A. Strausser
Plant Engineering Design
Pontiac Motor Division
One Pontiac Plaza
Pontiac, Michigan 48053

Dear Ms. Strausser:

Enclosed is a copy of your Michigan redesignation for waste generated at your facility.

If you have questions, please call me at (517) 373-2730.

Sincerely,

Joan H. Peck

Joan H. Peck
Hazardous Waste Division

Enclosure

APPROVED

6-10-83

MICHIGAN NATURAL RESOURCES COMMISSION

EXECUTIVE ASSISTANT

emorandum to the Natural Resources Commission:

Re: Pontiac Motor Division, GMC
Hazardous Waste Redesignation

On January 18, 1982, Pontiac Motor Division, General Motors Corporation, petitioned the Department to "delist" their electroplating wastewater treatment sludges. Additional information was submitted on March 1, 1982 and April 8, 1982.

Currently both the state and federal hazardous waste regulations consider this general waste type to be hazardous by definition. A company, however, may get its waste exempted from this general classification if it demonstrates that its specific waste does not possess the characteristics which originally caused the overall waste class to be considered hazardous.

In response to the company's petition, the U.S. Environmental Protection Agency granted Pontiac Motor Division a temporary delisting on November 22, 1982. MDNR staff has also reviewed the redesignation request and agrees that the waste may be redesignated. Therefore, it is recommended that the Commission also grant a temporary redesignation pursuant to MAC R 299.6204 subject to the following conditions:

1. This temporary redesignation will remain in effect until modified by the commission pursuant to a change or final decision on the company's delisting petition by the U.S. EPA or until this redesignation is modified by the commission for cause pursuant to condition number 11.

2. Only F006 sludge (wastewater treatment sludges from electroplating operations) generated on site is subject to this redesignation.

3. If a managed listed hazardous waste is mixed with the redesignated sludge, the entire mixture must be managed as a hazardous waste.

4. The sludge will be considered hazardous if:

   a) The sludge exhibits the characteristic of EP toxicity, ignitability, corrosivity or reactivity.

   b) The waste is infectious or severely toxic.

5. If the waste is not hazardous by condition 4, but is a notification waste, it must be managed according to R 299.6203(2)(a).

6. If the redesignated waste is to be disposed of in a Michigan landfill, it must go to a properly licensed facility.

7. Pontiac Motors shall keep all laboratory records on material subject to this redesignation at the facility. Such records shall be retained for a minimum of 3 years and shall be made available for review by the Director or his authorized representative upon request.

8. Pontiac Motors shall keep daily records of the volume of redesignated sludge sent for disposal and the disposal facility location.

9. Pontiac Motors shall comply with the conditions specified in the temporary delisting granted by EPA on November 22, 1982.

10. Pursuant to the Act and the Administrative Rules, DNR employees shall be permitted to reasonably stop and obtain samples of sludge from any vehicle which has been loaded with waste material, is on-site, and is in the process of departing from the company premises.

    If a test conducted on 1) a sample of sludge taken from any departing truck which is not carrying a valid 1979 PA 64 manifest indicating that the shipment is hazardous or 2) a sample from a batch of sludge which has been redesignated as nonhazardous shows that the sludge is hazardous by the definition in condition 4 above, then those tests shall be evidence that the company has violated Act 64 and this redesignation.

11. The Director may suspend, modify or revoke the redesignation after reasonable notice and hearing pursuant to Act 306 of the Public Acts of 1969, as amended, if the Director finds the company has not complied with the above conditions of the redesignation or if additional information indicates the redesignated waste stream is hazardous for reasons not considered in the original listing. Failure to comply with the conditions of this redesignation by the company may also constitute a violation of Act 64, P.A. 1979, as amended.

Delbert Rector

Delbert Rector, Chief
Hazardous Waste Division

I have analyzed and discussed this recommendation with the Deputy Directors and staff, and we concur.

James F. Clevenger

Howard A. Tanner
Director

ACTING

E-9

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four—digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four—digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non—listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non—listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate **all** the processes that will be used to store, treat, and/or dispose of all the non—listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)															FOR OFFICIAL USE ONLY					
W	M	I	D	0	0	5	3	5	6	8	8	6	T/A	C	W	DUP		T/A	C	DUP
1	2											13	14	15	1		13	14	15	23 - 26

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
	23 - 26	27 - 34	35	27 - 28	29 - 30	31 - 32		
1	D 0 0 1	350	T	S 0 1				
2	D 0 0 1	150	T	S 0 2				
3	D 0 0 1	1350	T	S 0 2				
4								
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25								
26	23 - 26	27 - 34	35	27 - 28	29 - 30	31 - 32		

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

(enter "A", "B", "C", etc. behind the "3" to identify photocopied pages)

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS W[illegible] 3 (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
F	M	I	D	0	0	5	3	5	6	8	8	6	T/A	6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground–level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
42 38 02 N	083 17 05 W

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
D.D. Cambell	D.D. Campbell	6/27/85

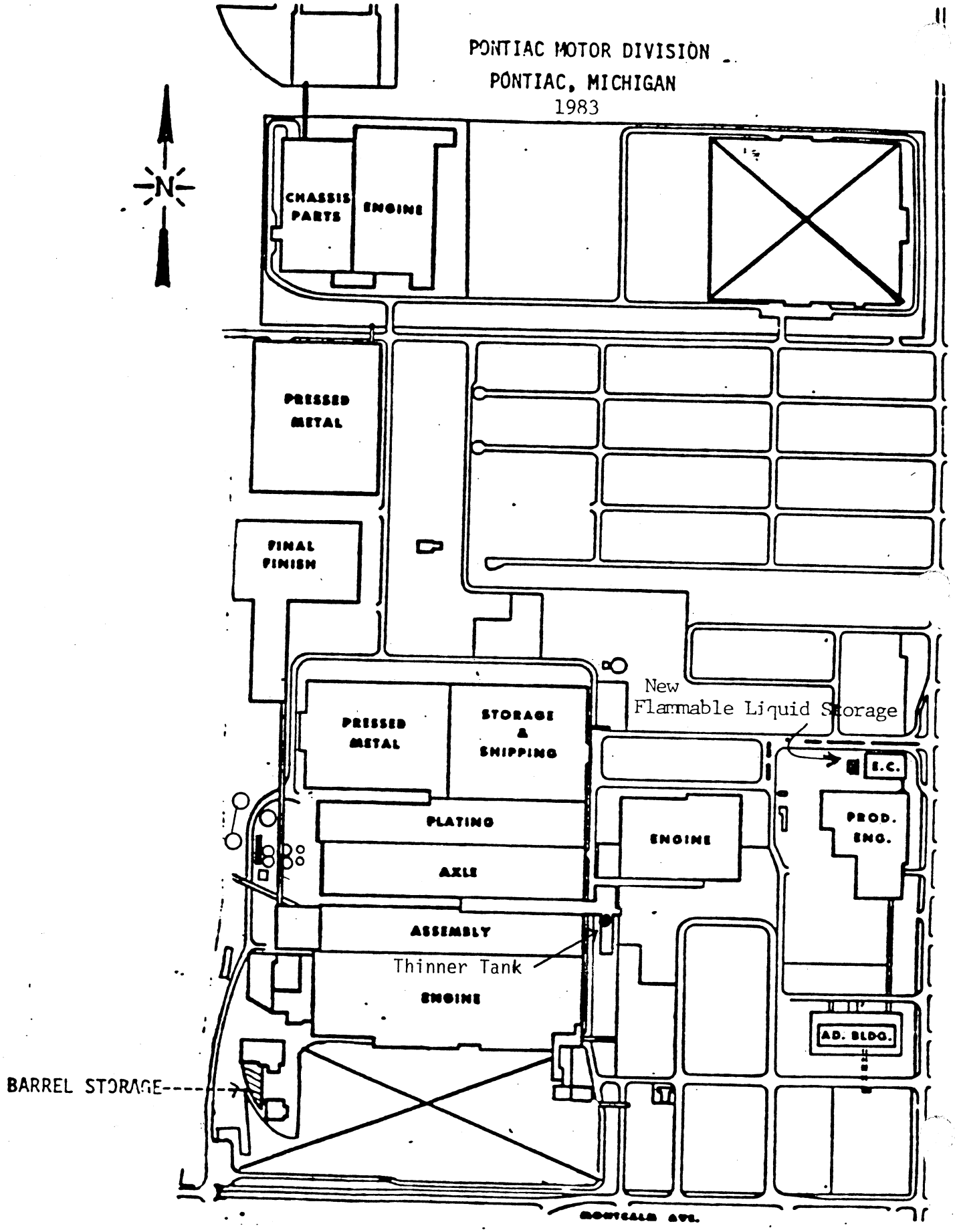
X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME (print or type)	B. SIGNATURE	C. DATE SIGNED

Form Approved OMB No. 158-S80004

V. FACILITY DRAWING *(see page 4)*



PONTIAC

March 28, 1984

Mr. J. Boyle
U. S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

SUBJECT: MODIFICATIONS TO "PART A" PERMIT

The Pontiac Motor Plant, Pontiac, Michigan, EPA I.D. No. MID 085356886 G,TRS,TSD, is requesting to modify the "Part A" RCRA Hazardous Waste Permit Application.

The major change that causes the necessity of permit modification is construction of a new 950 gallon bulk ignitable liquid storage tank.

The construction and utilization of this tank is necessary to comply with Michigan DNR state regulations.

This closed ignitable liquid storage tank will meet 40 CFR 265.17 requirements and all National Fire Protection Association Codes. Attached is the modified RCRA Form 3510-3. If there are any questions, please call Valory Strausser at (313) 857-2286.

Valory Strausser

VALORY A. STRAUSSER
Environmental Engineer

Enclosures

cc: R. L. Kieft, PMD
L. F. Charla, GM Legal
A. Howard, Mich. DNR
W. Collinson, EAS

RECEIVED
APR 03 1984
WASTE MANAGEMENT BRANCH

RECEIVED
4/4/84
EPA RAIU

(Print—in areas are spaced for elite type, i.e., 12 ch rs/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F M I D 0 0 5 3 5 6 8 8 6

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C	YR.	MO.	DAY
8			

☐ 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A, enter the capacity of the process.

1. AMOUNT – Enter the amount.

2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR OR GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal, or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided at Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	D
TONS PER HOUR	W
METRIC TONS PER HOUR	E
GALLONS PER HOUR	H
LITERS PER HOUR	B
ACRE-FEET	A
HECTARE-METER	F
ACRES	R
HECTARES	S

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*. A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 600 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	45,000	G		7				
2	S 0 2	950	G		8				
3					9				
4					10				

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER – Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY – For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non–listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure, taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES

For listed hazardous waste: For each **listed** hazardous waste entered in column A, select the code(s) from the list of process codes contained in Item III-C, to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION – If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

a. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.

b. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(1) on that line enter "included with above" and make no other entries on that line.

c. Repeat step b for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3 and X-4 below)* – A facility will treat and dispose of an estimated 900 pounds per year of chromic shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K054	900	P	T03 D80	
X-2	D002	400	P	T03 D80	
X-3	D001	100	P	T03 D80	
X-4	D002				included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

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EPA I.D. NUMBER (enter from page 1)															FOR OFFICIAL USE ONLY														
W	M	I	D	0	0	5	3	5	6	8	8	6	T/A	C	1	W												T/A	C	2
1	2											13	14	15		1	2											13	14	15	

	DUP		DUP
	13	14	15	23	24

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
	23 - 26	27 - 34	35	27 - 28	27 - 28	27 - 28	27 - 28	
1	D 0 0 1	350	T	S 0 1				
2	D 0 0 1	150	T	S 0 2				
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
	23 - 26	27 - 34	35	27 - 28	27 - 28	27 - 28	27 - 28	

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

(enter "A", "B", "C", etc. behind the "3" to identify photocopied pages)

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTE (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (Enter from page 1)	
MIDO005356886	16

V. FACILITY DRAWING

All existing facilities must be included on the space provided on page 5. A scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures, existing storage, treatment and disposal areas, and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
42 38 02 N	083 17 05 W

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

☐ B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items.

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE

IX. OWNER CERTIFICATION

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
D.G. Upton, Gen. Manuf. Mgr.	D.G. Upton	3-28-84

X. OPERATOR CERTIFICATION

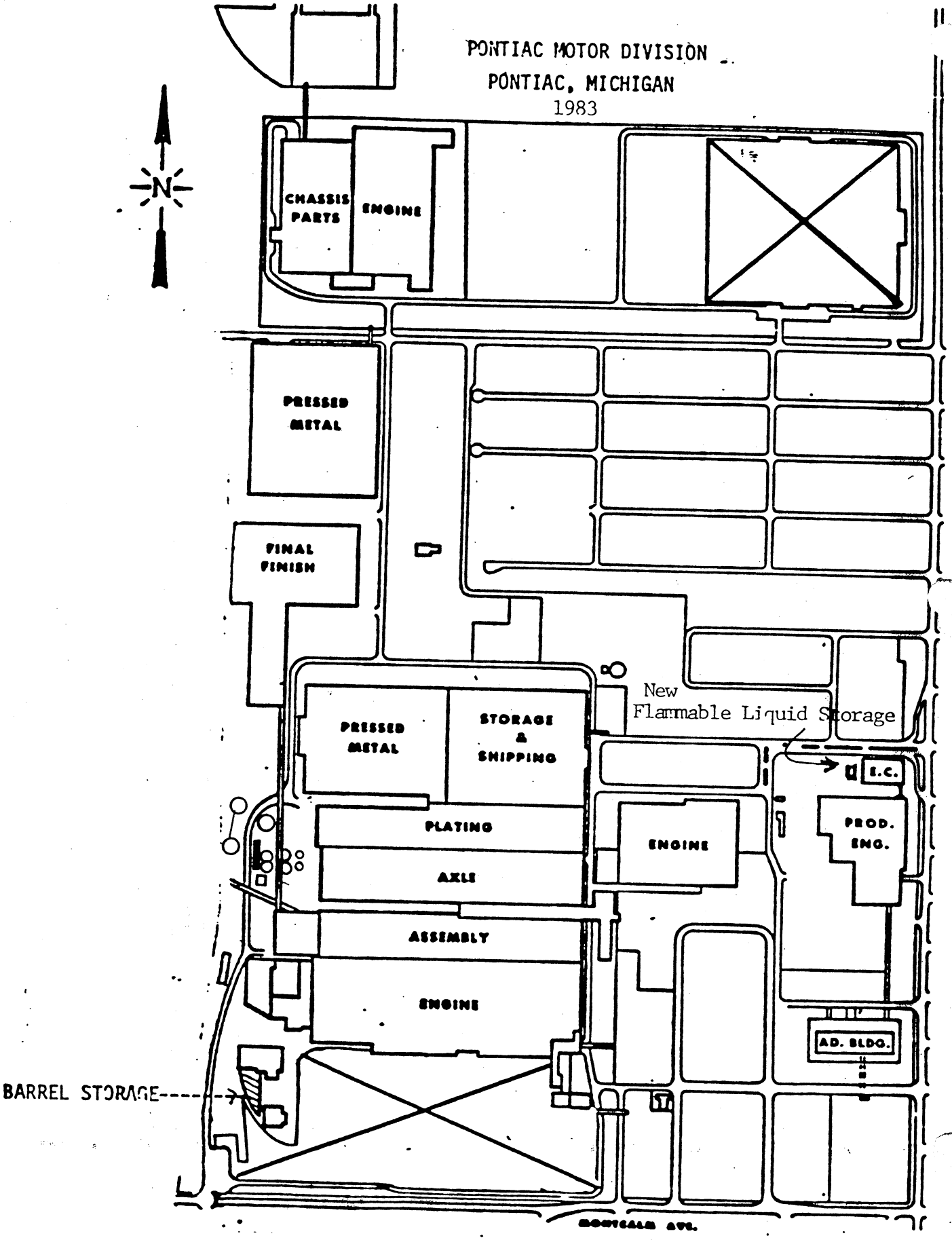
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED

Continued from page 4.

Form Approved OMB No. 158-S80004

V. FACILITY DRAWING *(see page 4)*



E-10

Chevrolet·Pontiac·Canada Group
Pontiac Engine & Axle Operations
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48053

RECEIVED
JUL 03 1985
SOLID WASTE BRANCH
U.S. EPA, REGION V

June 26, 1985

U.S. E.P.A.
Region 5 RCRA Activities
230 S. Dearborn St.
Chicage, Ill. 60604

G, TRS, TSD, PA

The attached is a revised "Part A" RCRA Permit application for CPC Pontiac, MID 005356886. The change is due to the January 4, 1985 amendments dealing with the redefining of recycled wastes as hazardous.

The addition is indicated on pages 1 and 3 of Form 3. There is storage of 7,000 gallons. And the annual amount generated is 1,350 tons of flammable liquid which is reclaimed.

Please note the name change. This occured with the reorganization of General Motors Corporation.

Valory Strausser
Sr. Plant Wngineer Environmental

RECEIVED
JUL 8 1985
U.S. EPA, REGION V
WASTE MANAGEMENT DIVISION
HAZARDOUS WASTE ENFORCEMENT BRANCH

cc: R.L. Kieft
W.J. Collinson - EAS
L.R. Minkwic

(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F M I D 0 0 5 3 5 6 8 8 6

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provi sffi it in the designated space. Review th ation carefully; if any of it is incorre through it and enter the correct data appropriate fill—in area below. Also, if any o the preprinted data is absent *(the area to th left of the label space lists the informatio that should appear)*, please provide it in th proper fill—in area(s) below. If the label i complete and correct, you need not complet Items I, III, V, and VI *(except VI-B. whic must be completed regardless)*. Complete a items if no label has been provided. Refer t the instructions for detailed item descrip tions and for the legal authorizations unde which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACH
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)	X			B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)				D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: C P C - P O N T I A C O F G E N E R A L M O T O R S C O R P .

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 V A L O R Y S T R A U S S E R S R . E N G I N E E R	3 1 3 8 5 7 2 2 8 6

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 O N E P O N T I A C P L A Z A

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 P O N T I A C	M I	4 8 0 5 3

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 O N E P O N T I A C P L A Z A

B. COUNTY NAME

O A K L A N D

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 P O N T I A C	M I	4 8 0 5 3	0 6 3

CONTINUE ON REVERSE

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
3710 (specify) MOTOR VEHICLES & EQUIPMENT	(specify)
C. THIRD	**D. FOURTH**
(specify)	(specify)

II. OPERATOR INFORMATION

A. NAME

CPC - PONTIAC OF GENERAL MOTORS CORP.

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)

(specify) PRIVATE

D. PHONE (area code & no.) A 313 857 2286

E. STREET OR P.O. BOX

ONE PONTIAC PLAZA

F. CITY OR TOWN

PONTIAC

G. STATE MI

H. ZIP CODE 48053

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
9 N MI0042122	9 P N/A
B. UIC (Underground Injection of Fluids)	**E. OTHER** (specify)
9 U N/A	9 (specify)
C. RCRA (Hazardous Wastes)	**E. OTHER** (specify)
9 R MID005356886	9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

C.P.C.- PONTIAC, IS A MANUFACTURER OF AUTOMOBILE COMPONENTS INCLUDING ENGINES, REAR AXLES, SHEET METAL STAMPINGS, AND THERMOPLASTIC MOLDINGS. ALL COMPONENTS ARE USED FOR THE MANUFACTURING AND ASSEMBLY OF AUTOMOBILES.

XIII. CERTIFICATION (see instructions)

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
D. D. CAMPBELL V. P. GROUP DIRECTOR- OPERATIONS CPC	X D. D. Campbell	4/27/85

COMMENTS FOR OFFICIAL USE ONLY

(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F M I D 0 0 5 3 5 6 8 8 6

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

C 8 — FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)* — YR. | MO. | DAY

☐ 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN — YR. | MO. | DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G	
X-2	T 0 3	20	E	
1	S 0 1	45,000	G	
2	S 0 2	950	G	
3	S 0 2	7,000	G	
4				
5				
6				
7				
8				
9				
10				

E-11

Chevrolet·Pontiac·Canada Group
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48053

January 21, 1986

United States E.P.A.
Region 5, R.C.R.A. Activities
230 S. Dearborn Street
Chicago, Il 60604

The attached is a revised "Part A" R.C.R.A. permit application for C.P.C. - Pontiac, MID005356886. Two changes require that we revise our Part A. The first change is due to the December 31, 1985 amendments to 40 CFR Part 261 dealing with the revisions to the solvent listings. (§261.31 - Hazardous Waste from non-specific sources, F001-F005.) The second change is an addition of a new waste stream that will be generated but not stored for longer than 90 days.

The changes in the Part A application are indicated on Pages 1 and 3 on Form 3.

Dale G. Gossiaux

Dale G. Gossiaux
Sr. Environmental Engineer
Plant Engineering - Design

cc: R.L. Kieft
W.J. Collinson - E.A.S.
L.R. Minkwic - C.P.C. Staff

KEN
RICH TRAUB EPA REGION V
ORIG: PART B FILE

Chevrolet-Pontiac-Canada Group
General Motors Corporation
One Pontiac P
Pontiac, Michigan 48

January 21, 1986

Michigan Department of Natural Resources
Office of Hazardous Waste Management
Box 30028
Lansing, Michigan 48909

The attached is a revised "Part A" R.C.R.A. permit application for C.P.C. - Pontiac, MID005356886. Two changes require that we revise our Part A. The first change is due to the December 31, 1985 amendments to 40 CFR Part 261 dealing with the revisions to the solvent listings. (§261.31 - Hazardous Waste from non-specific sources, F001-F005.) The second change is an addition of a new waste stream that will be generated but not stored for longer than 90 days.

The changes in the Part A application are indicated on Pages 1 and 3 on Form 3.

Dale G. Gossiaux

Dale G. Gossiaux
Sr. Environmental Engineer
Plant Engineering - Design

cc: R.L. Kieft
W.J. Collinson - E.A.S.
L.R. Minkwic - C.P.C. Staff

12. WASTE DIV
JAN 86 3: 2

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters per inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL — EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F M I D 0 0 5 3 5 6 8 8 6

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

LABEL ITEMS

- I. EPA I.D. NUMBER
- III. FACILITY NAME
- V. FACILITY MAILING ADDRESS
- VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		N.A.
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: C P C - P O N T I A C O F G E N E R A L / M O T O R S C O R P

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 G O S S I A U X , D A L E S R . E N G I N E E R	3 1 3 | 8 5 7 | 2 2 8 7

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 O N E P O N T I A C P L A Z A

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 P O N T I A C	M I	4 8 0 5 3

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 O N E P O N T I A C P L A Z A

B. COUNTY NAME

O A K L A N D

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 P O N T I A C	M I	4 8 0 5 3	0 6 3

CONTINUE ON REVERS

VII. SIC CODES (4-digit, in order of prior)

A. FIRST	B. SECOND
3710 (specify) Motor Vehicles and Equipment	(specify)

C. THIRD	D. FOURTH
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME

C. P. C. - PONTIAC OF GENERAL MOTORS CORP

B. Is the name listed in Item VIII-A also owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

P (specify)

D. PHONE (area code & no.)

A 313 857 2287

E. STREET OR P.O. BOX

ONE PONTIAC PLAZA

F. CITY OR TOWN

PONTIAC

G. STATE MI

H. ZIP CODE

IX. INDIAN LAND

Is the facility located on Indian lands?

☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
9 N MI0042 12	9 P N/A

B. UIC (Underground Injection of Fluids)	E. OTHER (specify)
9 U N/A	9 (specify)

C. RCRA (Hazardous Wastes)	E. OTHER (specify)
9 R MID005356886	9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

C.P.C. - Pontiac is a manufacturer of automobile components, including engines, rear axles, sheet metal stampings and thermoplastic moldings. All components are used for the manufacturing and assembly of automobiles.

WASTE DIV

JAN 86 3 : 2

XIII. CERTIFICATION (see instructions)

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
James B. Darnell, Manager, Engine Ops.	X [signature]	1/[illegible]

COMMENTS FOR OFFICIAL USE ONLY

C

Fill-in areas are spaced for elite type, i.e., 12 characters per inch.

Form Approved. OMB No. 158-S30004

FORM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I.D. NUMBER: F M I D 0 0 5 3 5 6 8 8 6

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[ ] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

[8] FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR. | MO. | DAY

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES: PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR. | MO. | DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[X] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S01	45,000	G		7				
2	S02	950	G		8				
3	S02	7,000	G		9				
4	S01	30	Y		10				

Continued from the front.

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

1. WASTE DIT

JAN 86 3: 2

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W M I D 0 0 5 3 5 6 8 8 6	W DUP 2 DUP

V. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	F005	350	T	S01	
2	D001	150	T	S02	
3	F005	1,350	T	S02	
4	F001	Included with Line 1, above	T	S01	
5	D008	120	T	S01	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25	WASTE DIT				
26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS W[illegible]ES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

F M I D 0 0 5 3 5 6 8 8 6 T/A C 1 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
4 2 3 8 0 2 N	0 8 3 1 7 0 5 W

VIII. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	C G		

IX. OWNER CERTIFICATION

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
James B. Darnell, Manager, Eng. Ops.	X [signature]	1/[illegible]/86

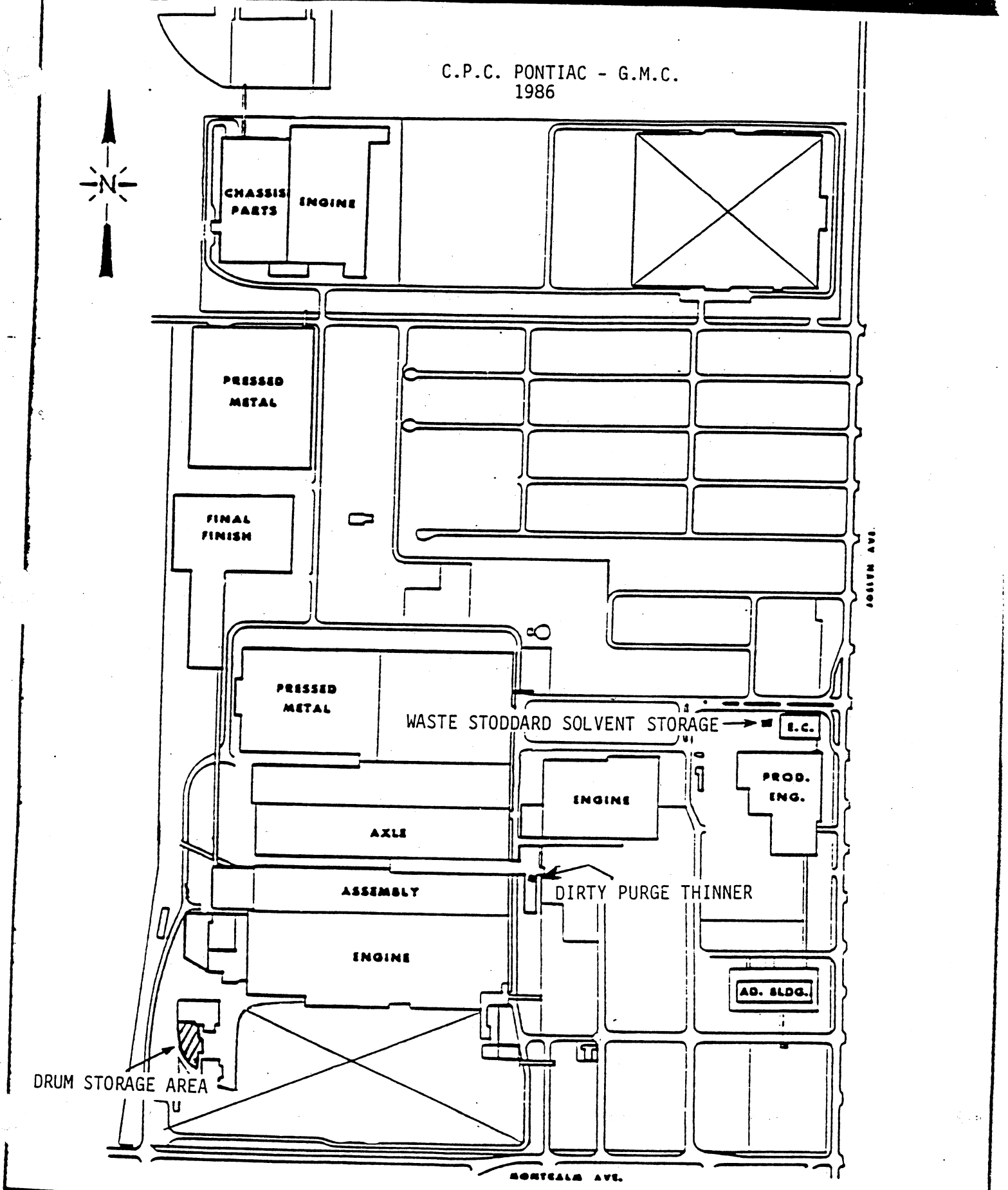
X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED

V. FACILITY DRAWING (see page 4)

Form Approved OMB No. 158-S80004



E-12

Chevrolet-Pontiac-Canada Group
Pontiac Engine & Axle Operations
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48053

March 12, 1986

United States E.P.A.
Region 5, R.C.R.A. Activities
230 S. Dearborn St.
Chicago, IL 60604

Atten: G. Seals

Dear Ms. Seals:

Per your request from our telephone conversation of March 7, 1986, please find attached a revised "Part A" R.C.R.A. permit application for C.P.C. - Pontiac, MID005356886.

The revisions being made can be found on page 1 of form 3. Line 1 now reads, S01; 51,000; G and line 2 now reads, S02; 7,950; G.

The revised line 1 was made by combining the former lines 1 and 4 and the revised line 2 was made by combining the former lines 2 and 3 from our most recent revision to the Part A. (January, 1986).

Please note, however, per our conversation, that 6,000 "Gallons" of the waste in the revised line 1 is a solid waste that we previously reported as 30 cubic yards. We converted the 30 cubic yard figure into gallons by using an approximate conversion factor of 200 gallons per cubic yard.

If there are any questions regarding this revision, please contact me at (313) 857-2287.

Sincerely,

Dale G. Gossiaux

Dale G. Gossiaux
Sr. Environmental Engineer
Plant Engineering - Design

attach.

cc: R.L. Kieft
W.J. Collinson - E.A.S.
L.R. Minkwic - C.P.C. Staff
Mich. D.N.R., Office of Hazardous
Waste Management

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F M I D 0 0 5 3 5 6 8 8 6 (1)

COMMENTS

ED APPLICATION

...ropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or ... this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's ... Item I above.

...CATION *(place an "X" below and provide the appropriate date)*

...ING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

MO. | DAY

B. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR | MO. | DAY

...ED APPLICATION *(place an "X" below and complete Item I above)*

. FACILITY HAS INTERIM STATUS

2. FACILITY HAS A RCRA PERMIT

...OCESSES – CODES AND DESIGN CAPACITIES

...ROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for ...ntering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

...PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A C (1)

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S01	51,000	G		7				
2	S02	7,950	G		8				
3					9				
4					10				

E-13

Chevrolet·Pontiac·Canada Group
Pontiac Engine & Axle Operations
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48053

April 29, 1986

RECEIVED
MAY 01 1986
SOLID WASTE BRANCH
U.S. EPA, REGION V

United States E.P.A.
Region 5, R.C.R.A. Activities
230 S. Dearborn Street
Chicago, IL 60604

Atten: G. Seals

Dear Ms. Seals:

Per our telephone conversation of April 21, 1986, please find a revised "Part A" R.C.R.A. permit application for C.P.C. - Pontiac, MID005356886.

This revision is being made because 6,000 gallons of waste identified on the March 12, 1986 revision should not have been added to line 1 on page 1 of Form 3. The current "Process Design Capacity" of our container storage area is adequate to handle this new waste along with the wastes currently being generated.

The March 12, 1986 revision was intended to notify your office of a new waste being generated. It was not intended to be a request to increase the "Process Design Capacity" of the container storage area. I am sorry for any confusion and inconvienence this may have caused.

In this corrected revision, 6,000 gallons of S01 "Process Design Capacity" as noted on page 1 of Form 3, has been deleted to correct the error.

If there are any questions regarding this revision, please contact me at (313) 857-2287. Thank you.

Sincerely,

Dale G. Gossiaux

Dale G. Gossiaux
Sr. Environmental Engineer
Plant Engineering - Design

attach.

cc: Michigan D.N.R., Office of Hazardous
Waste Management

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

EPA I.D. NUMBER: F M I D 0 0 5 3 5 6 8 8 6

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided affix it in the designated space. Review the information carefully; if any of it is incorrect cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		N.A.
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: C P C - P O N T I A C O F G E N E R A L M O T O R S C O R P.

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 G O S S I A U X , D A L E S R . E N G I N E E R	3 1 3 | 8 5 7 | 2 2 8 7

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 O N E P O N T I A C P L A Z A

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 P O N T I A C	M I	4 8 0 5 3

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 O N E P O N T I A C P L A Z A

B. COUNTY NAME

O A K L A N D

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 P O N T I A C	M I	4 8 0 5 3	0 6 3

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
3710 (specify) Motor Vehicles and Equipment	(specify)
C. THIRD	**D. FOURTH**
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME

CPC-PONTIAC OF GENERAL MOTORS CORP.

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

P (specify)

D. PHONE (area code & no.)

A 313 857 2287

E. STREET OR P.O. BOX

ONE PONTIAC PLAZA

F. CITY OR TOWN

PONTIAC

G. STATE MI

H. ZIP CODE 48053

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
N MI0042122	9P N/A
B. UIC (Underground Injection of Fluids)	**E. OTHER (specify)**
U N/A	9 (specify)
C. RCRA (Hazardous Wastes)	**E. OTHER (specify)**
MID005356886	9 (specify)

XI.

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

C.P.C.-Pontiac is a manufacturer of automoblie components, including engines, rear axles, sheet metal stampings and thermoplastic moldings. All components are used for the manufacturing and assembly of automobiles.

XIII. CERTIFICATION (see instructions)

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete and is made on behalf of General Motors Corporation.

PRINT/TYPE NAME	TITLE	SIGNATURE OF AUTHORIZED REPRESENTATIVE	DATE
James B. Darnell	Mgr. Engine Operations	James B Darnell	4/24/86
d W. Ableson	Mgr. G-Car and Pressed Metal	Donald W. Ableson	4/22/86

COMMENTS FOR OFFICIAL USE ONLY

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

Form Approved OMB No. 158-S80004

I. EPA I.D. NUMBER

F M I D 0 0 5 3 5 6 8 8 6

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C 8 | YR. | MO. | DAY

☐ 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) ON WHICH HAZARDOUS WASTE WAS BEGAN TO BE TREATED, STORED, OR DISPOSED OF AT THE FACILITY *(enter code)*

YR. | MO. | DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Two lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR OR GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U

UNIT OF MEASURE	UNIT OF MEASURE CODE
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H

UNIT OF MEASURE	UNIT OF MEASURE CODE
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G	
X-2	T03	20	E	
1	S01	45,000	G	
2	S02	7,950	G	
3				
4				

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
5				
6				
7				
8				
9				
10				

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER – Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY – For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate **all** the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W M I D 0 0 5 3 5 6 8 8 6 — T/A: — C: 1	W — DUP — T/A: — C: 2 — DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	F005	350	T	S01	
2	D001	150	T	S02	
3	F005	1,350	T	S02	
4	F001	Included with line 1, above.	T	S01	
5	D008	120	T	S01	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Form 3510-3 (6-80)

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

F	M	I	D	0	0	5	3	5	6	8	8	6	T/A	6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground–level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
42 38 02 N	083 17 05 W

VIII. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete and is made on behalf of General Motors Corporation.

PRINT/TYPE NAME	TITLE	SIGNATURE OF AUTHORIZED REPRESENTATIVE	DATE
James B. Darnell	Mgr. Engine Operations	James B. Darnell	4/24/86
Donald W. Ableson	Mgr. G-Car and Pressed Metal	Donald W. Ableson	4/22/86

X. OPERATOR CERTIFICATION

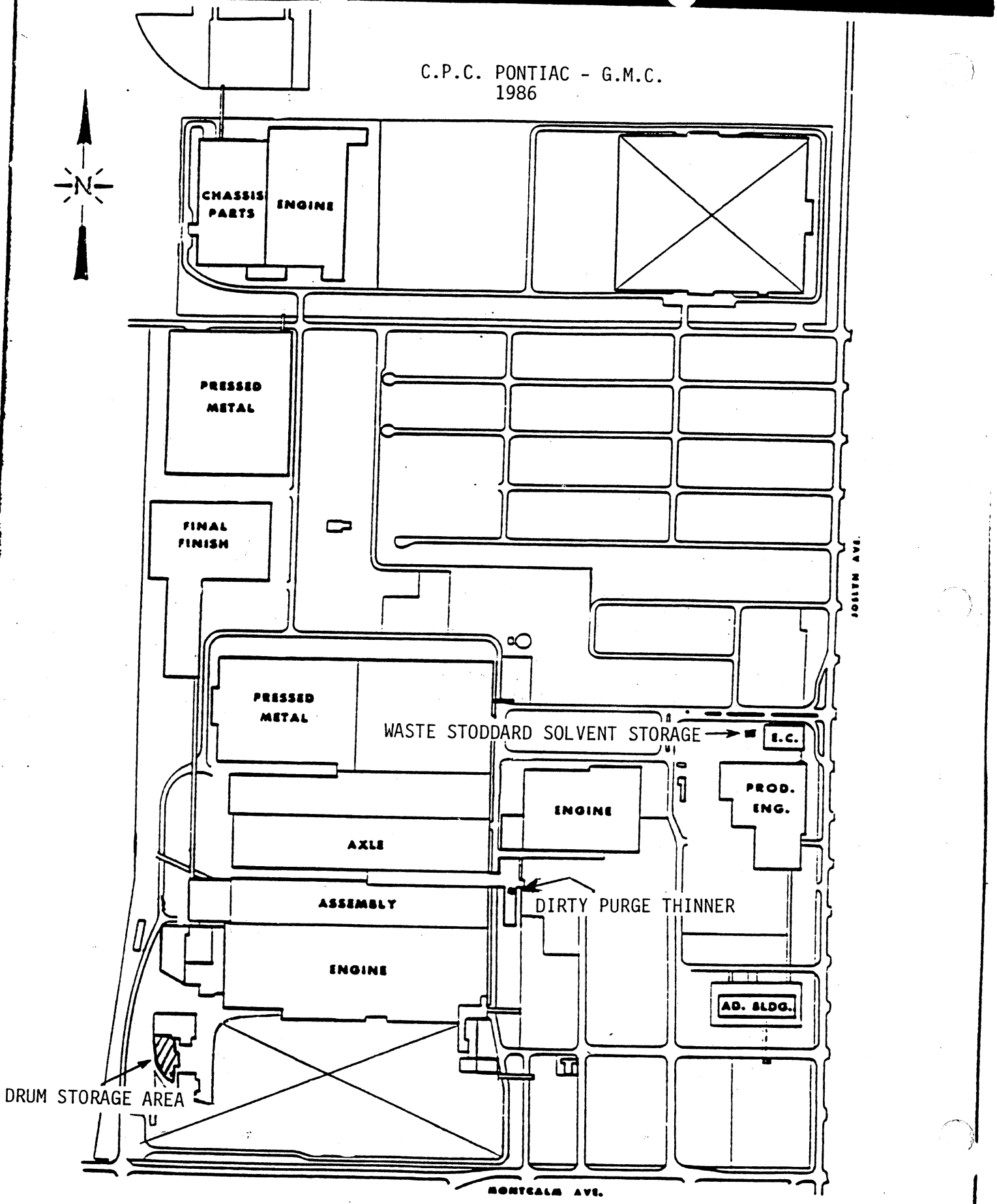
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED

Continued from page 4.

V. FACILITY DRAWING (See page 4)

Form Approved OMB No. 158-S80004



E-14

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

RECEIVED
PLANT ENGINEERING
DES. 3-

APR 1 1 22 PM '86

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONS

Mr. Dale G. Gossiaux
Senior Environmental Engineer
Chevrolet-Pontiac-Canada Group
Pontiac Motor Plant
One Pontiac Plaza
Pontiac, Michigan 44004

Dear Mr. Gossiaux:

The Characterization and Assessment Division (CAD) has completed its review of Chevrolet-Pontiac-Canada Group's (CPC) petition requesting the exclusion of electroplating waste (EPA Hazardous Waste No. F006) generated at your Pontiac, Michigan facility. Based on the data presented in your petition, however, CAD will recommend to the Assistant Administrator for Solid Waste and Emergency Response that CPC's petition be denied, and that your temporary exclusion be withdrawn.

CPC originally submitted its petition to delist its electroplating waste on September 15, 1981. Based on our review of your petition at that time, the Agency granted a temporary exclusion to CPC on November 22, 1982. This decision was based on what was then believed to be sufficient immobility of the listed hazardous constituents in the waste.

As as result of the Hazardous and Solid Waste Amendments of 1984 (HSWA), the Agency is now required to consider all toxicants and factors that may cause the waste to be hazardous. In addition to these changes, the Agency has also developed new tools to evaluate the environmental impact of the leaching of toxicants from wastes. The Vertical and Horizontal Spread (VHS) model (see 50 FR 7896-7900, February 26, 1985 and 50 FR 48886-48967, November 26, 1985) is one of the tools used by the Agency in making delisting decisions regarding leachable toxicants contained in a waste. The VHS model sets up a sliding regulatory scale which is based on the volume of waste generated and the reported extract data. It predicts the concentration of each toxicant at a compliance point located 500 feet from the disposal site. The Agency considers the hazards presented by the waste by comparing the concentrations of the toxicants predicted at the compliance point by the VHS model with a regulatory standard for each toxicant.

The CAD has evaluated the nickel leachate data obtained from samples of your electroplating waste collected between September 6, 1985 and September 27, 1985, which you claim to be representative of the variability of the waste, using the VHS model. Based on the maximum annual volume of waste generated at CPC, reported as 2943 cubic yards/year, the maximum nickel extract levels that could be exhibited by the waste without failing the VHS model would be 2.52 ppm. Any nickel extract concentrations above this level would generate a nickel concentration greater than the Agency's Interim Standard for nickel of 0.350 at the compliance point.[1/] All nickel extract values reported by CPC fail the VHS model by generating nickel concentrations at the compliance point in excess of the regulatory standard, (i.e., above 0.35 ppm). In addition, the mean as well as the upper limit of the ninety-five percent confidence interval of the nickel extract levels, (calculated as 8.7 and 11.4 ppm, respectively), also generate compliance point values in excess of the interim standard. These compliance point values were 1.2 and 1.61 ppm, respectively. The Agency has previously stated that during the interim period a petition would not be denied based soley on the waste's nickel content. In this case, however, the levels of leachable nickel are so high that we believe our decision would not change when a final regulatory standard for nickel is adopted.

We, therefore, conclude that CPC's waste could present significant hazard to both human health and the environment. The CAD believes that the waste should, therefore, be considered hazardous, and again subject to regulation under 40 CFR Parts 262 through 266 and the permitting standards of 40 CFR Part 270.

The CAD will recommend to the Assistant Administrator for Solid Waste and Emergency Response that a notice withdrawing the temporary exclusion previously granted, and denying the petition be published in the Federal Register. It is our policy, however, to give petitioners the option of withdrawing their petition instead of publishing a negative finding in the Federal Register. If you prefer this option, you will need to send us a letter withdrawing your petition within two weeks from the date of today's correspondence. The letter should indicate that the waste is considered hazardous and will be managed as such.

1/ The Agency previously used 0.632 mg/l as the nickel standard; however, a number of problems were found with the study from which this number was calculated (see 50 FR 20247, May 15, 1985). The Agency is in the process of conducting a study on the reproductive effects of nickel in rats. This study, once completed, will be used to determine an allowable daily intake value and a regulatory standard for nickel.

If your petition is not withdrawn, a denial decision will be proposed in the Federal Register. During this interim period, your temporary exclusion will remain in effect. However, when a final decision is published, your temporary exclusion will terminate, and the facility will lose interim status 12 months from the effective date of that decision, unless you submit a complete Part B permit application and certify that you are in compliance with all ground water monitoring and financial responsibility requirements.

If you have any questions regarding any of the above, please contact Mr. Myles Morse of my staff at (202) 382-4788.

Sincerely,

Eileen Claussen, Director
Characterization, and
Assessment Division

E-15

Chevrolet·Pontiac·Canada Group
Pontiac Engine & Axle Operations
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48053

September 30, 1986

RECEIVED
OCT 06 1986
SOLID WASTE BRANCH
U.S. EPA, REGION V

RECEIVED
OCT 07 1986
SWD - AIS
U.S. EPA, REGION V

U.S. E.P.A.
Region 5 - [redacted]
230 S. Dearbron Street
Chicago, IL 60604

Atten: G. Seals

Dear Ms. Seals:

Attached please find a revised Part A Hazardous Waste Permit Application for C.P.C. - Pontiac, MID005356886.

Also attached please find a letter from Karl E. Bremer, Chief Technical Programs Section stating that we had incorrectly placed a 950 gallon storage tank on the Part A permit application.

This revision is being made to correct that error. The changes being made are as follows:

Line 2 of Page 1 of Form 3 should now read 7,000 gallons instead of 7,950 gallons, and,

Page 3 of Form 3 should now have D001 deleted.

If there are any questions regarding this matter, please contact me at (313) 857-2287.

Sincerely,

Dale G. Gossiaux

Dale G. Gossiaux,
Sr. Environmental Engineer
Plant Engineering - Design

Attach. (2)

cc: Michigan D.N.R., Hazardous Waste Division

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

GENERAL

PA I.D. NUMBER

F M I D 0 0 5 3 5 6 8 8 6

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters** of the U.S.? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters** of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to **waters** of the U.S. other than those described in A or B above? (FORM 2C)	X		N.A.	D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters** of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X		J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: C P C - P O N T I A C O F G E N E R A L M O T O R S C O R P.

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 G O S S I A U X, D A L E S R. E N G I N E E R	3 1 3 | 8 5 7 | 2 2 8 7

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 O N E P O N T I A C P L A Z A

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 P O N T I A C	M I	4 8 0 5 3

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 O N E P O N T I A C P L A Z A

B. COUNTY NAME

O A K L A N D

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 P O N T I A C	M I	4 8 0 5 3	0 6 3

CONTINUE ON REVERSE

(fill-in areas are spaced for elite type, i.e., 12 characters/inch)

Form Approved OMB No. 158-S80004

FORM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

EPA I.D. NUMBER: F M I D 0 0 5 3 5 6 8 8 6 (T/A) C 1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

[ ] 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

C 8 | YR. | MO. | DAY

[ ] 2. NEW FACILITY (Complete item below.)

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR. | MO. | DAY

B. REVISED APPLICATION (place an "X" below and complete Item I above)

[X] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. **PROCESS CODE** – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. **PROCESS DESIGN CAPACITY** – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G	
X-2	T 0 3	20	E	
1	S 0 1	45,000	G	
2	S 0 2	7,000	G	
3				
4				

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
5				
6				
7				
8				
9				
10				

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

V. DESCRIPTION OF HAZARDOUS WASTES

. EPA HAZARDOUS WASTE NUMBER – Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

ESTIMATED ANNUAL QUANTITY – For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

UNIT OF MEASURE – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are

ENGLISH UNIT OF MEASURE	CODE
POUNDS	P
TONS	T

METRIC UNIT OF MEASURE	CODE
KILOGRAMS	K
METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

PROCESSES

. PROCESS CODES:

For listed hazardous wastes: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

TE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by than one EPA Hazardous Waste Number shall be described on the form as follows:

Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.

In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the wastes. In column D(2) on that line enter "included with above" and make no other entries on that line.

Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

MPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) – A facility will treat and dispose of an estimated 900 pounds ear of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes orrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated ounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
K 0 5 4	900	P	T 0 3 D 8 0	
D 0 0 2	400	P	T 0 3 D 8 0	
D 0 0 1	100	P	T 0 3 D 8 0	
D 0 0 2				included with above

EPA I.D. NUMBER (enter from page 1)

W	M	I	D	0	0	5	3	5	6	8	8	6	T/A	C
														1

FOR OFFICIAL USE ONLY

W	DUP	T/A	C	DUP
			2	

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	F 0 0 5	350	T	S 0 1	
2	F 0 0 5	1,350	T	S 0 2	
3	F 0 0 1	Included with line 1, above	-	S 0 1	
4	D 0 0 8	120	-	S 0 1	
5					
6					
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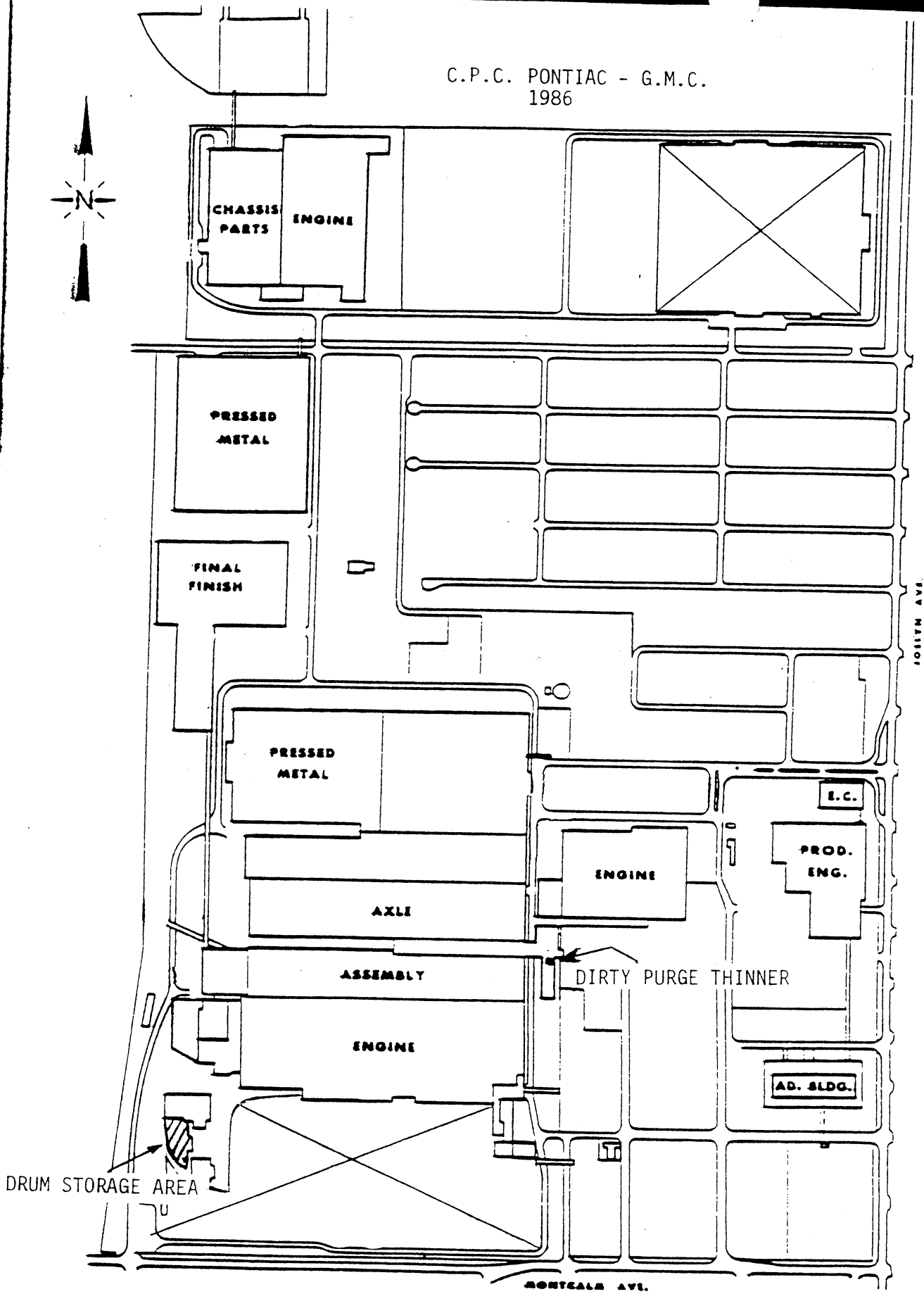
26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

Form Approved OMB No. 158-S80004



RECEIVED
PLANT ENGINEERING
DESIGN
SEP 2 1 38 PM '86

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF:
5HS-JCK-13, S.W.

AUG 2 6 1986

CERTIFIED MAIL P#250 760 452
RETURN RECEIPT REQUESTED

Mr. Dale G. Gossiaux
Sr. Environmental Engineer
Plant Engineering-Design
Chevrolet-Pontiac-Canada Group
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48053

RE: Chevrolet-Pontiac-Canada Group
MID 005 356 886

Dear Mr. Gossiaux:

This is to acknowledge that the United States Environmental Protection Agency (U.S. EPA) has reviewed your letter and attached partial closure plan dated July 29, 1986. According to the information submitted by your facility on May 29, 1984, the 950 gallon storage tank was incorrectly placed on your Part A Hazardous Waste Permit Application. Your letter stated that the previously referenced tank was used to accumulate hazardous waste generated on site for less than 90 days in accordance with 40 CFR 262.34.

Based on this information and a review of your facility's compliance record, it is the opinion of this office, that a closure plan for this particular unit is not required. However, closure must be conducted in accordance with 40 CFR 265.197 and all applicable State and local requirements.

A closure plan must be submitted at least 180 days prior to closure of your hazardous waste container storage area (S01) and tanks storing waste more than 90 days (S02).

If you have any questions regarding this matter, please contact Diane M. Spencer of my staff, at (312) 886-3740.

Sincerely,

Karl E. Bremer

Karl E. Bremer, Chief
Technical Programs Section

cc: Al Howard/MDNR

PONTIAC

May 29, 1984

United States E.P.A.
Regulation Analysis & Information Unit
Region V
230 South Dearborn Street
Chicago, Illinois 60604

RECEIVED
WASTE MANAGEMENT
BRANCH

The Pontiac Motor Plant, Pontiac, Michigan, EPA I.D.No.MID00535 6886 rescinds the request to modify the Part "A" Permit of March 28, 2984. Pontiac Motor requests to return to the September 13, 1982 Permit, Part "A" application. G, TRS, TSD, ?

The SO2 storage in a tank will follow 40 CFR 262.34 and as such does not need to be present on the permit application.

RECEIVED
JUN 14 1984
WASTE MANAGEMENT DIVISION
OFFICE OF THE DIRECTOR

V. Strausser

V. A. STRAUSSER
Sr. Environmental Engineer

cc: R. L. Kieft, PMD
L. F. Charla, GM Legal
W. J. Collinson, EAS

RECEIVED
JUN 14 1984
WMD-RAIU
EPA, REGION V
WASTE MANAGEMENT DIVISION
OFFICE OF THE DIRECTOR

E-16

Chevrolet-Pontiac-Canada Group
Pontiac Engine & Axle Operations
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48053

RECEIVED
OCT 27 1986
U.S. EPA, REGION V

RECEIVED
NOV 06 1986
U.S. EPA, REGION V

RECEIVED
OCT 24 1986
U.S. EPA, REGION V
WASTE MANAGEMENT DIVISION
HAZARDOUS WASTE ENFORCEMENT BRANCH

October 21, 1986

United States Environmental Protection Agency
Office of Solid Waste and Emergency Response
Washington, D.C. 20460

Attn: Eilieen Claussen, Director
Characterization and Assessment Division

Dear Ms. Claussen:

C.P.C. - Pontiac, MID005356886, has received the Federal Register notice on the proposal to deny our delisting petition and revoke the temporary exclusion of our wastewater treatment sludge. (51 FR Pgs. 33628-33632)

This proposal and the letter we received from you on April 1, 1986 (copy attached), makes mention of the permitting standards of 40 CFR Part 270 (Part B Permit Application). Your letter also mentions certification of compliance with the groundwater monitoring and financial responsibility requirements.

C.P.C. - Pontiac no longer accumulates the waste of concern in a waste pile, rather, as it is generated, the waste is placed directly into a roll-off box, and, when full, is sent directly to a landfill. Currently filling a roll-off box takes no longer than two (2) production days.

Because we are handling the waste in this manner, we feel that a Part B submittal will not be necessary when the temporary exclusion expires or is officially denied, since, at that time, C.P.C. - Pontiac will not have a hazardous waste - waste pile.

Additionally, a revised Part A will not be required because the waste will not remain on site >90 days and, therefore, the facility will not be storing the waste.

COPY

In a related subject, a recent administrative law (U.S. Nameplate) decision regarding the definition of F006 waste streams (the decision excludes phosphating wastes from the F006 definition) may have an impact on C.P.C. - Pontiac's wastewater treatment sludge. C.P.C. - Pontiac has only one "true" electroplating process. Currently, valve stems are chrome plated in one operation. We intend to either remove the operation so that no electroplating is done on-site or to segregate the waste that this process generates from the rest of the wastewater treatment process. This action, coupled with the U.S. Nameplate decision will exclude our wastewater treatment sludge from being a listed hazardous waste. We will, however, sample and analyze the sludge to see if it meets any of the current hazardous waste characteristics to determine if the waste is hazardous or non-hazardous. Currently we are studying the feasibility of each option.

We would appreciate your written concurrence in these matters as soon as possible. If you have any questions, please contact me at 313-857-2287.

Sincerely,

Dale Gossiaux

Dale Gossiaux
Sr. Environmental Engineer
Plant Engineering - Design

Attach

cc: E.P.A. Region 5
R.C.R.A. Activities

Michigan D.N.R.
Hazardous Waste Division

E-17

Chevrolet · Pontiac · Canada Group
Pontiac Engine Operations
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48058-3486

FEB 20 1987

February 19, 1987

United States Environmental Protection Agency
Office of Solid Waste and Emergency Response
Washington, D.C. 20460
ATTN: Eileen Claussen, Director
Characterization and Assessment Division

Dear Ms. Claussen:

In a letter sent to you on October 21, 1986, C.P.C.-Pontiac (MID005356886) indicated that we were studing options on either removing the only one "true" electroplating process or segragating the waste water that this process produces from the waste water treatment plant.

The decision had been made to remove the process entirely, and, therefore, no more electroplating waste will be received by the waste water treatment plant. The process was removed on January 30, 1987. We will monitor the sludge generated by the treatment operation for E.P. Toxicity parameters to ensure that the sludge generated is non-hazardous.

If you have any questions on this matter, please contact me at (313) 857-2287.

Sincerely,

Dale G. Gossiaux

Dale G. Gossiaux
Senior Environmental Engineer
Plant Engineering - Design

cc: E.P.A. Region 5
Michigan D.N.R., Hazardous
Waste Division

E-18

Chevrolet - Pontiac - Canada Group
Pontiac Engine Operations
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48058-3486

August 20, 1987

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Michigan Department of Natural Resources
Hazardous Waste Division
Ottawa Street Building, South Tower
P.O. Box 30028
Lansing, MI 48909

RECEIVED
AUG 24 1987
SOLID WASTE BRANCH
U.S. EPA, REGION V

Attn: Ms. A. R. Schoenrock

Dear Ms. Schoenrock:

Enclosed, please find a revised R.C.R.A. Part A permit application for C.P.C. - Pontiac of General Motors Corporation. (MID005356886). This revision is being submitted in light of your determination that our Waste Purge Thinner Tank system has not been used to store (>90 days) hazardous waste, and, therefore, is not a regulated hazardous waste storage unit. (See attached letter).

This revision deletes line 2 on page 1 of form 3, also, the items on page 3 of form 3 have been revised to reflect that there is no tank storage at our facility.

If there are any questions regarding this matter, please contact me at (313) 857-2287.

Sincerely,

Dale G. Gossiaux

Dale G. Gossiaux,
Sr. Environmental Engineer
Plant Engineering - Design

Attach.

cc: Ms. M. Murphy, U.S. EPA

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 charact).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL — U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

EPA I.D. NUMBER: F M I D 0 0 5 3 5 6 8 8 6

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

I. GENERAL (PARTS I, III, V, VI)

II. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		N.A.
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: C P C - P O N T I A C O F G E N E R A L M O T O R S C O R P.

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 G O S S I A U X, D A L E, S R. E N G I N E E R	3 1 3 | 8 5 7 | 2 2 8 7

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 O N E P O N T I A C P L A Z A

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 P O N T I A C	M I	4 8 0 5 3

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 O N E P O N T I A C P L A Z A

B. COUNTY NAME

O A K L A N D

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 P O N T I A C	M I	4 8 0 5 3	0 6 3

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

FORM 3 RCRA — EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

Form Approved OMB No. 158-S80004

I.D. NUMBER: F M I D 0 0 5 3 5 6 8 8 6

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

☐ 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

C 8 | YR. | MO. | DAY

☐ 2. NEW FACILITY (Complete item below.)

FOR NEW FACILITIES PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR. | MO. | DAY

B. REVISED APPLICATION (place an "X" below and complete Item I above)

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G	
X-2	T03	20	E	
1	S01	45,000	G	
2				
3				
4				

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
5				
6				
7				
8				
9				
10				

CONTINUE ON REVERSE

Continued from page 2.

NOTE: Photocopy this page before completing if you h ...re than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)														FOR OFFICIAL USE ONLY													
W	M	I	D	0	0	5	3	5	6	8	8	6		1	W		DUP			2	DUP						

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	F005	350	T	S01	
2	F001	Included with line 1, above	T	S01	
3	D008	120	T	S01	
4					
5					
6					
7					
8					
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12					
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22					
23					
24					
25					
26					

E-19

Chevrolet · Pontiac · Canada Group
Pontiac Engine Operations
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48058 · 3486

November 25, 1987

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RECEIVED
NOV 27 1987

State of Michigan
Department of Natural Resources
Hazardous Waste Division
P.O. Box 30028
Lansing, MI 48909

Dear Sirs:

Part A GEN, TR, TSD, PA

After careful examination of the amounts and types of hazardous waste generated at C.P.C. - Pontiac (MID005356886), we find that there is no need for our facility to retain "interim status" as a hazardous waste storage facility and we wish to convert our hazardous waste operations to "generator only" status. The only regulated unit at this facility is a container storage unit. Attached is the closure plan for this unit.

The container storage unit is a diked, concrete pad located on the south side of our salvage building. Recently we enclosed a portion of the pad in anticipation of conversion to generator only status. It is our intention to utilize this area after the conversion for the accumulation of our hazardous wastes.

C.P.C. - Pontiac thanks you for your review and consideration for approval of this closure plan and we look forward to hearing from you in the near future. If you have any questions on this matter, please contact me at (313) 857-2287.

Sincerely,

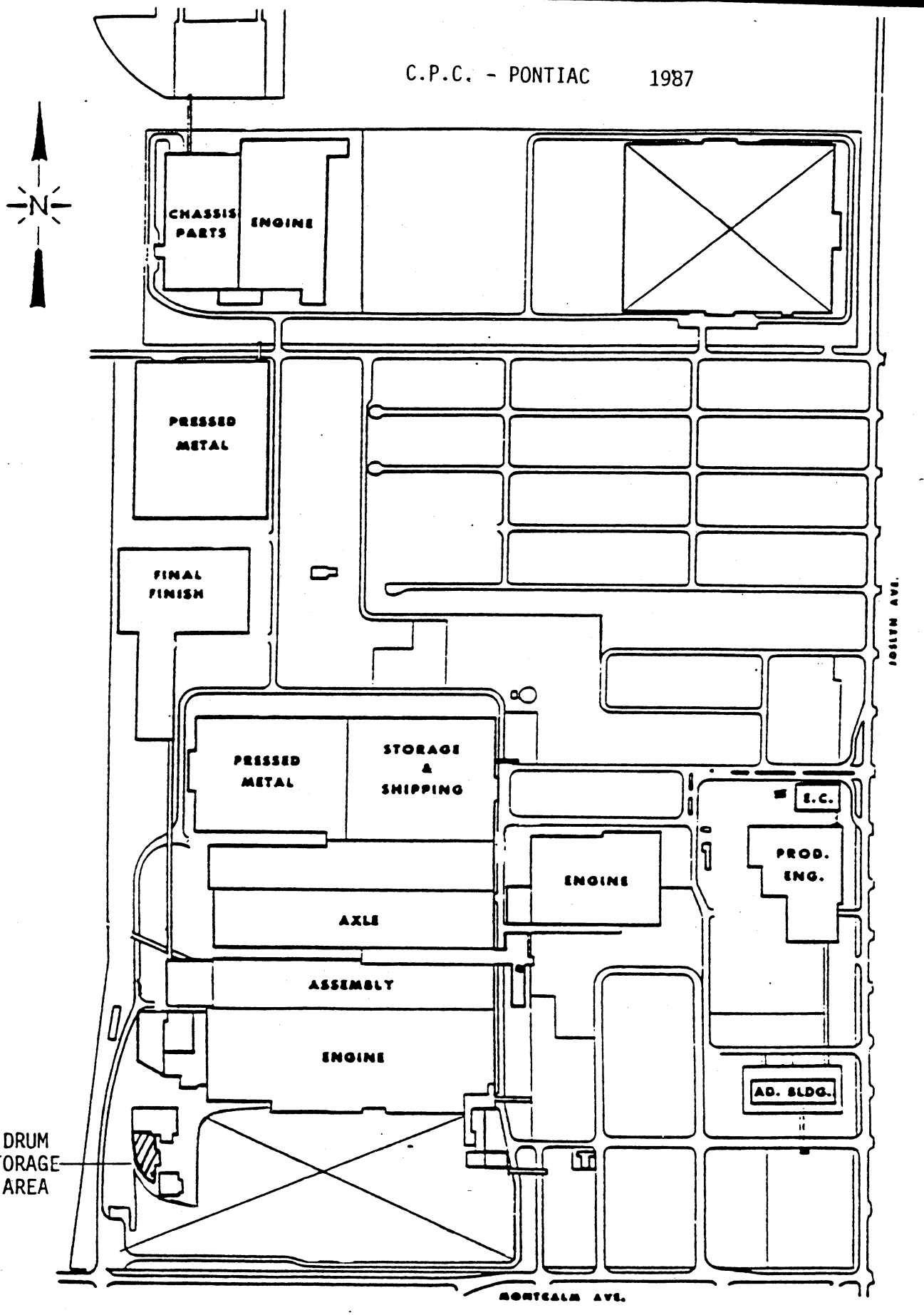
Dale G. Gossiaux

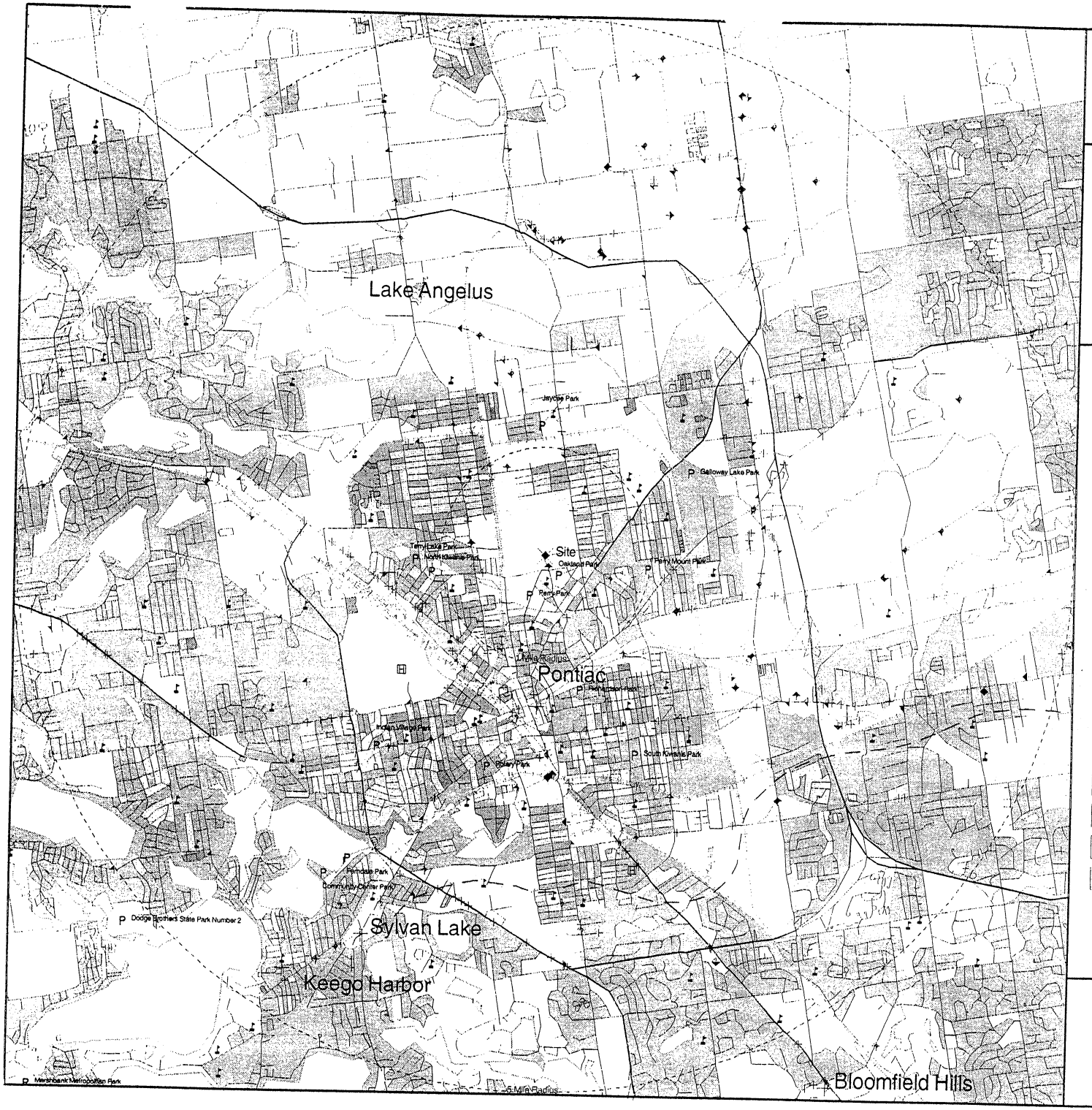
Dale G. Gossiaux
Sr. Environmental Engineer
Plant Engineering - Design

cc: U.S. E.P.A. Region 5

Form Approved OMB No. 158-S80004

V. FACILITY DRAWING *(see page 4)*





Pontiac North

Lat: 42.658141 Long: 83.286083
Oakland County, MI.

This computer representation has been compiled by the U.S. Environmental Protection Agency (EPA) from sources which have supplied data or information that has not been verified by the the EPA. This data is offered here as a general representation only, and is not to be used for commercial purposes without verification by an independant professional qualified to verify such data or information. The EPA does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any loss or injury resulting from reliance upon the information shown.

LEGEND

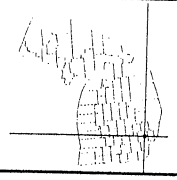
Note: Facility labeling turned OFF if more than 250 points.
Some facilities without good addresses may plot at zip code centroids.

- CERCLIS NPL Site
- CERCLIS NPL Site (Proposed)
- CERCLIS Deleted From NPL Final Site
- CERCLIS Part of NPL Final Site
- CERCLIS Non-NPL Site Mabe located by zipcode!
- Archived from CERCLIS
- RCRA TSD or LQG Site
- RCRA General/Other Site
- EPCRA TRI Site (Toxics Release Inventory)
- PCS Facility Site
- AFS/AIRS Site
- Undefined or Poor Locational Accuracy (More than 500 meters)
- Public Water Supply EPA SDWIS System
- Hospital (From 1995 GNIS names file)
- School (From 1995 GNIS names file)
- Park (From 1995 GNIS names file)
- Basin Boundary USGS Catalog Unit
- County Boundary

1990 Population Density Per Sq Mi

- Under 10
- 10 –100
- 100 –1,000
- 1,000 –3,000
- 3,000 –6,000
- 6,000 –10,000
- 10,000 –20,000
- Over 20,000

0 1 2 3
Miles
Albers Projection



EPA
U.S. Environmental Protection Agency

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race in the official Census definitions. Hispanic Origin may include counts from any of the Census race categories including White. PL171 Census data included a cross tabulation of origin versus race (Fields P004_0001 to 0006). We used these tabulations for our summaries below. Our definition for Total People of Color is Total Population minus the White Non-Hispanic Origin as tabulated in the PL171 data. These fields are similar to the STF1A P009 class of fields.

Summary for Distance Range of 0 to 1 mile(s).

Processing State Library MI26...
194 Census Block Centroids within selected library/map area.
Will now process statistics for 194 Census Block Centroids...

Total Population = 14322
Household Units = 5134

Population By Origin:		Total	Summary Stats	National Comparison 50 States/D.C.	
White	=	8435	58.9%	75.6%	
Black	=	3697	25.8%	11.8%	
AmInd/Esk/Ale	=	110	0.8%	0.7%	
Asian/PacIsnd	=	316	2.2%	2.8%	
Other	=	27	0.2%	0.1%	
Hispanic	=	1737	12.1%	9.0%	
Total People of Color	=	5887	41.1%	24.4%	See note 2.

Average Pop Density per sq mi = 4558 (Centroids/Distance Radius Area)

Summary for Distance Range of 0 to 5 mile(s).

Processing State Library MI26...
2122 Census Block Centroids within selected library/map area.
Will now process statistics for 2122 Census Block Centroids...

Total Population = 154098
Household Units = 60477

Population By Origin:		Total	Summary Stats	National Comparison 50 States/D.C.	
White	=	109815	71.3%	75.6%	
Black	=	32700	21.2%	11.8%	
AmInd/Esk/Ale	=	897	0.6%	0.7%	
Asian/PacIsnd	=	2880	1.9%	2.8%	
Other	=	151	0.1%	0.1%	
Hispanic	=	7655	5.0%	9.0%	
Total People of Color	=	44283	28.7%	24.4%	See note 2.

Average Pop Density per sq mi = 1959 (Centroids/Distance Radius Area)

RCRA Closure Report

DRAFT

Prepared For:

General Motors - Chevrolet-Pontiac-Canada Group
Fiero Assembly Plant
900 Baldwin Avenue
Pontiac, Michigan

Prepared By:

RUST Environment & Infrastructure of Michigan, Inc.
17250 Newburgh Rd.
Suite 130
Livonia, Michigan 48152

January 1995

QUALITY
♦
INTEGRITY
♦
CREATIVITY
♦
RESPONSIVENESS

RUST ENVIRONMENT & INFRASTRUCTURE

♻

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Photograph 5 A view of a failed seal along the drain in the concrete pad of the hazardous waste drum storage area.

Photograph 6 A view of concrete pad near soil boring SB-3 in the hazardous waste drum storage pad.

Photograph 7 A southern view of boring B-7 on pad of the hazardous waste drum storage area.

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2.0 BACKGROUND INFORMATION

The Fiero assembly plant stored hazardous waste in two storage units in accordance with a Part A permit for interim status under the Resource Conservation and Recovery Act (RCRA) and the code of federal regulations (40 CFR Part 265). Hazardous waste has been stored at the Fiero assembly plant since November 18, 1980. The original Part A permit application was revised on November 4, 1987 to permit and open the current (upgraded) hazardous waste drum storage pad. The closure of the original drum storage pad was accepted by the Michigan Department of Natural Resources (MDNR) on February 3, 1988 (see Appendix A).

The hazardous waste UST was located in a tank farm with three product USTs (xylene, pure thinner, and cellosolve acetate). The tank farm was located between the acetylene building and pump house to the north of the assembly plant. The hazardous waste UST received spent thinner wastes from the paint mix buildings and two paint spray booths in the assembly plant. The wastes were classified as FOO5 listed hazardous wastes. A licensed transporter removed the wastes from the tank every 60 to 90 days and transported them to an off-site reclamation center.

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The hazardous waste drum storage pad received both solid and liquid wastes generated from a number of areas in the Fiero assembly plant. The wastes were placed in 55-gallon drums in the assembly plant, sealed when full, and transferred to the storage pad prior to off-site treatment or disposal. The wastes stored on the pad were DOO1 - Ignitable wastes, FOO1, FOO2, FOO3, and FOO5 listed hazardous wastes.

The hazardous waste drum storage pad was constructed to the south of the assembly plant in the area of the existing coal pile storage area. The pad consists of a 65 by 90 foot concrete slab that is approximately eight inches thick. A sump and a drain trench were constructed in the concrete pad to capture any spills or leaks. The joints of the concrete pad were sealed and the pad was inspected and maintained. The area to west, east, and north of the drum storage pad is covered with concrete driveways for traffic along the south side of the assembly plant.

Two above ground storage tanks were placed in a separately contained area in the southwest corner of the drum storage pad. GM-CPC planned to use these tanks for waste oil storage. After installation, GM-CPC decided that the tanks were not required and the tanks have never been used.

1.0 INTRODUCTION

RUST Environment & Infrastructure of Michigan Inc. (RUST) was retained by General Motor Corporation's Chevrolet-Pontiac-Canada Group (GM-CPC) to assist with the closure of a hazardous waste underground storage tank (UST) and a hazardous waste drum storage pad. The two hazardous waste storage units were located at the former Fiero assembly facility in Pontiac, Michigan (see Figure 1). The hazardous waste UST was located in a tank farm with three product USTs to the north of the Fiero assembly plant. The hazardous waste drum storage pad was located to the south of the assembly plant (see Figure 2).

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This report is a closure report documenting the activities to certify the closure of a hazardous waste UST and drum storage pad in accordance with Resource Conservation and Recovery Act (RCRA) and the code of federal regulations (40 CFR Part 265.115). The closure report is presented in three sections. The first section presents a review of background information related to the hazardous waste UST and drum storage pad. The second presents a summary of the activities certifying the closure of the hazardous waste UST. The third section presents a summary of the activities certifying the closure of the hazardous waste drum storage pad.

This Closure Report is not intended to provide verification on an Act 307 Type A, B, or C Closure, but is intended to close the RCRA Status of the two storage areas.

When the Fiero assembly plant was idled in July 1988, GM-CPC decided to close the hazardous waste UST and drum storage pad, and three product USTs in the tank farm adjacent to the hazardous waste UST. A closure plan was prepared and submitted to the MDNR on April 28, 1988 (see Appendix B). Final approval of the closure plan was obtained on October 31, 1988 (see Appendix C).

3.0 CLOSURE ACTIVITIES

3.1 Hazardous Waste Underground Storage Tank

GM-CPC retained Techna Corporation (Techna) of Plymouth, Michigan to conduct and certify the closure of the hazardous waste UST. The closure activities began on May 9, 1989 and continued until August 16, 1989. Techna submitted a report documenting the closure activities to the MDNR on July 18, 1990 (see Techna, 1990 in Appendix D).

This section of the report will review the closure activities conducted by Techna to certify the closure of the hazardous waste UST. The closure activities conform to the closure plan submitted to MDNR on April 28, 1988 and approved on October 31, 1988 (see Appendix B and C).

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3.1.1 Waste Management

Prior to closure, GM-CPC removed all of the waste thinner from the hazardous waste UST. The waste was transported by a licensed hazardous waste hauler to a licensed waste treatment facility. Copies of the waste manifests are contained in Techna (1990)

3.1.2 Underground Storage Tank Cleaning

GM-CPC contracted Inland Waters of Detroit, Michigan to clean the interior of the UST. Inland Waters cleaned the UST on May 9, 1989 (Techna, 1990). The UST was cleaned using a high pressure spin blaster using a solution of water and detergent followed by a triple rinse of all surfaces with water.

3.1.3 Rinsate Management

Waste waters created from the decontamination of the USTs were collected in a tanker on site. A sample of the waste water was collected to determine if the water could be disposed in the assembly plant's wastewater treatment facility. The results of the laboratory testing are contained in Techna (1990). Based on the results, the wastewater was disposed in the wastewater treatment facility of the assembly plant.

3.1.4 Underground Storage Tank Removal

After the interior of the tanks had been decontaminated, GM-CPC leased equipment to excavate and removed the hazardous waste UST and three product USTs (xlyene, virgin purge thinner, cellosolve acetate) (Techna, 1990).

Solvent odors were detected in surface soils during the excavation and removal of UST's. The surface soils may have been contaminated by spills and overfills during tank operations (Techna 1990). Approximately 60 cubic yards of surface soil was removed from the UST area and placed in three 20-yard rolloff boxes. The roll-off boxes were stored inside the facility to protect them from the weather. Soil samples were collected from the rolloff boxes and were sent to the laboratory for analysis of volatile organic compounds (VOCs); using US EPA Method 8010/8020. The results of laboratory testing detected low levels of VOCs in the surface soils. Additional soil samples were collected from the roll-off boxes for Toxicity Characteristic Leachate Procedure (TCLP) analysis. The results of TCLP analysis indicated that the VOCs were below restricted levels for land ban. The material was then disposed at a licensed hazardous waste disposal facility. Copies of the analytical results and waste manifests for the surface soils are contained in Techna (1990).

Excavation continued after the removal of the visibly impacted surficial soils. The excavated soils were stockpiled on the pavement northwest of the former USTs. Soil samples were collected and sent to a laboratory for analysis of VOCs using US EPA Method 8010/8020. The results of the laboratory testing indicated that VOCs were not detected in the stockpiled soils. As a result, these soils were then disposed at the City of Pontiac Landfill in Pontiac, Michigan. Copies of the analytical results and shipping manifests for the stockpiled soils are contained in Techna (1990).

Visual inspections of the USTs showed some surface corrosion but there was no evidence (holes, pits, stains, etc,) suggesting a leak from the tanks (Techna, 1990). The UST's were cut up by GM-CPC personnel and the scrap metal was transported offsite to Sam Allen and Son, Pontiac, Michigan. Copies of the shipping manifest for the scrap metal are contained in Techna (1990).

3.1.5 Soil Sampling

To assess the soil, 20 samples were collected from the excavation of the USTs (Techna, 1990). Soils samples were collected from the perimeter of the concrete slab located in the bottom of the excavation. The location of the soil samples are shown in Figure 3.

In addition, four borings (11-BS to 14-BS) were completed to the north of the USTs (Techna, 1990). These borings were advanced to determine the background level of metals in the surrounding soil. A drilling rig was used to advance hollow-stem augers to a depth of 14 feet below the ground surface. Soil samples were then collected from a depth of fourteen to fifteen feet six inches (14' 0" to 15' 6") using a split-spoon sampler. Prior to drilling and sampling, all equipment was decontaminated using a high

temperature and high pressure wash (steam cleaned).

3.1.6 Results of Soil Sampling

The soil samples collected by Techna were submitted for laboratory analysis to DiHydro Analytical Services in Wayne, Michigan. Samples 1E through 10E and the background samples (11-BS to 14-BS) were analyzed for total metals using US EPA Methods 7060, 7080, 7190, 7210, 7420, 7471, 7520, 7740, 7760 and 7950. Samples labeled 1 through 10 were analyzed for VOC's using US EPA Methods 8010/8020. The data sheets from laboratory testing are shown in the Techna (1990).

Table 1 provides a summary of the laboratory results for the total metals in the soil. A statistical analysis was performed using the metals in the background samples in accordance with the closure plan (Techna, 1990). Metals in the soil underlying the UST excavation were compared to a background values established for the soils at the site. The background value is equal to the mean of the background samples plus three standard deviations. Using this value and the Gosset student's t-test, soil underlying the USTs exceed the background values for arsenic, cadmium, copper, lead, mercury, nickel, and zinc (Techna, 1990).

The laboratory results for the VOCs in the soil are summarized in Tables 2. A review of Table 2 indicates that two soil samples near the product USTs contained ethylbenzene (160 to 320 ug/kg) and xylene (890 to 910 ug/kg). Neither location is located near the Hazardous Waste UST.

3.1.7 Discussion

The laboratory results and the statistical analysis suggest that the soil underlying the USTs contain elevated concentrations of metals when compared to background samples (Techna, 1990). Low levels of organic chemicals were also detected in the soil underlying the product USTs (Techna, 1990).

Metals in Soil

RUST compared the concentrations of the metals to MDNR Type A and Type B cleanup criteria for soils (see Table 3). The default Type A cleanup criteria are presented in the MDNR Operational Memorandum # 15, dated September 20, 1993. The Type B cleanup criteria are presented in the MDNR Operational Memorandum # 8, Revision # 3, dated February 4, 1994.

Some soils underlying the product USTs exceed the default MDNR Type A cleanup criteria for lead, mercury, and zinc in sample points (1E, 2E, 3E, 8E, 9E, and 10E). Review of Table 3 and Figure 3 indicates that none of the metals in the soil near the hazardous waste UST (5E, 6E, and 7E) exceed the default MDNR Type A cleanup criteria (see Figure 3).

RUST compared the metals in the soils underlying the USTs to naturally occurring metals in Michigan soils (see Table 4). A review of Table 4 indicates that the soils underlying all of the USTs do not exceed typical values for soils in Michigan (Boerngen and Schalette, 1981, Waste Management Division, 1988, Kesler-Arnold and O'Hearn, 1990, Dragun and Chiasson, 1991). Thus the metals in the soil are typical of Michigan soils.

Chemical analysis indicated that the hazardous waste in the UST was a solvent waste and did not contain listed metal wastes (Techna, 1990). Also, all samples collected adjacent to the Hazardous Waste UST contained metals below default Type A levels. Thus, the metals in the soil are not related to hazardous waste in the UST.

VOCs in Soil

RUST compared the concentrations of VOCs to MDNR Type A and Type B cleanup criteria for soils (see Table 5). The Type A and Type B cleanup criteria are presented in the MDNR Operational Memorandum # 8, Revision # 3, dated February 4, 1994. Ethylbenzene (0.16 to 0.32 mg/kg) and xylene (0.89 to 0.91 mg/kg) were detected in the soils underlying the product USTs. Review of Table 5 indicates that the VOCs in the soil do not exceed MDNR Type B cleanup criteria. Further review of Table 5 and Figure 3 indicates that VOCs were not detected in soil samples near the hazardous waste UST.

Also, the concentrations of VOCs in the soil near the product USTs are lower than the method detection limits specified in the approved closure plan (see Appendix B). The approved closure plan listed a method detection limit of 10 mg/kg for VOCs in soil. The concentration of VOCs in the soil underlying the USTs is less than 1 mg/kg, which are below the method detection limits in the approved closure plan.

The chemical analysis of the hazardous waste indicated that the waste contains the following VOCs: toluene, methyl ethyl ketone (MEK), methyl isobutyl ketone and xylene. If there were any spills or leaks from the hazardous waste UST, then some of these VOCs should have been detected in the soil along with the xylene and ethylbenzene. Toluene, MEK, and methyl isobutyl ketone were not detected.

3.1.8 Conclusions

RUST concludes that the metals and low levels of VOCs in the soil are not related to a release from the hazardous waste UST. This conclusion is based on the following reasons:

1) Inspection of the tanks did not indicate a release from the USTs. No pitting, staining or holes were observed in any of the tanks.

2) The metals in the soils do not exceed regional background concentrations for metals in Michigan soils.

3) Metals in the soils near the hazardous waste UST do not exceed MDNR Type A cleanup criteria.

4) The hazardous waste stream contain a solvent waste stream and not a listed metal waste stream.

5) VOCs detected in the soil do not exceed the MDNR Type B cleanup criteria.

6) VOCs were not detected in the soil near the hazardous waste UST.

7) VOCs detected in the soil are below the method detections limits in the approved closure plan.

8) The hazardous waste contained toluene, MEK, MIK, and xylene. These chemicals were not detected in the soils.

Based on these conclusions, that there was no release from the Hazardous Waste UST, GM requests that the RCRA status of the Hazardous Waste UST be closed.

3.2 Hazardous Waste Drum Storage Pad

GM-CPC retained Techna to conduct and certify the closure of the hazardous waste drum storage pad. The closure activities began on May 9, 1989 and continued until August 16, 1989. On July 18, 1990, Techna submitted a report documenting the closure activities to the MDNR (see Appendix D). Techna certified the closure of the hazardous waste UST and recommended additional investigation of the organic chemicals in the soil underlying the drum storage pad.

On September 12, 1990, GM-CPC submitted to MDNR an outline of a subsurface investigation for the drum storage pad. GM-CPC notified the MDNR on July 31, 1991 that they would proceed with the proposed subsurface investigation (see Appendix E). GM-CPC retained Testing, Engineers, & Consultants (TEC) of Troy, Michigan to conduct the subsurface investigation of the soil and groundwater underlying the drum storage pad. TEC advanced five soil borings to depths of up to 25 feet below the drum storage pad on August 6 and 7, 1991. The results of the subsurface investigation were submitted to the MDNR on May 1, 1992 (see GM-CPC, May 1, 1992 in Appendix F).

This section of the report will review the closure activities conducted by Techna and TEC to certify the closure of the drum storage pad. These activities correspond to those described in the closure plan submitted to MDNR on April 28, 1988 and approved on October 31, 1988 (see Appendix B and C).

3.2.1 Waste Management

Prior to commencing the closure activities, the hazardous and non-hazardous wastes that were stored on the drum storage pad were removed, transported, and disposed at a hazardous waste treatment or disposal facility. Manifests documenting the disposal of the waste from drum storage pad are contained in Techna (1990).

3.2.2 Drum Storage Pad Cleaning

GM-CPC contracted Inland Waters of Detroit, Michigan to clean the concrete surface, drain trench, and sump of the drum storage pad (Techna 1990). Inland Waters cleaned the concrete surface of the drum storage pad on May 9, 1989. The concrete surface was cleaned using a high pressure spin blaster using a solution of water and detergent followed by a triple rinse of all surfaces with water. The waste water created by the decontamination of the concrete surface was collected and stored in a tanker.

Inland Waters removed the sludges from the sump in the storage pad on May 11, 1989. The sludges were placed in 55-gallon drums, analyzed, and disposed as hazardous waste.

The sump was then cleaned with the high pressure spin blaster using a solution of water and detergent followed by a triple rinse of all surfaces with water. The waste water created by the decontamination of the sump was also collected and stored in a tanker

On June 7, 1989, Inland Waters cleaned the drain trench used to collect rain water, spills, or leaks on the storage pad. The drain trench, pipes, and sump were then cleaned with the high pressure spin blaster using a solution of water and detergent followed by a triple rinse of all surfaces with water. Again the waste water created by the decontamination was collected and stored in a tanker

3.2.3 Rinsate Management

The waste waters created from the decontamination of the drum storage pad were collected in a tanker on site. A sample of the waste water was collected to determine if water could be disposed in the assembly plant's wastewater treatment facility. The results of the laboratory testing are contained in Techna (1990). Based on the results, the waste water was disposed in the assembly plant's wastewater treatment facility.

3.2.4 Soil Sampling

In order to assess the closure, 17 samples were collected from the soil underlying the drum storage pad. A 20 foot grid was established across the concrete surface and 17 borings (B-1 to B-17) were advanced through the concrete pad to collect a sample of the underlying soil (see Figure 4).

The borings were completed by coring through the concrete slab of the drum storage pad. A drilling rig was used to advance hollow-stem augers to a depth of 1 foot below the top of the concrete surface. Soil samples were collect from a depth of one to two feet six inches (1'0"-2'6") using a spilt-spoon sampler. Prior to drilling and sampling, all equipment was decontaminated using a high temperature, high pressure wash (steam cleaned). The split-spoon samplers were also decontaminated with a detergent wash and then rinsed with methanol followed by de-ionized water.

In addition, four borings (B-18 to B-21) were completed to the west of the drum storage pad. These borings were advanced to determine the background level of metals in the surrounding soil. Hollow-stem augers were then advanced to a depth of two feet below the ground surface. Soil samples were then collected from a depth of two to three feet six inches (2'0"-3'6") using a split spoon sampler. Each sample was described in a soil boring log contained in Techna (1990).

3.2.5 Results of Soil Sampling

The soil samples collected by Techna were submitted for laboratory analysis to DiHydro Analytical Services in Wayne, Michigan. Each soil samples was tested for VOCs (using US EPA Method 8010/8020 and total metals using US EPA Methods 7060, 7080, 7130, 7190, 7210, 7420, 7471, 7520, 7740, 7760, 7950). The results of the laboratory testing are shown in the Techna Report (1990).

A statistical analysis was performed using the metals in the background samples in accordance with the closure plan, (see Table 6). Metals in the soil underlying the drum storage pad were compared to a background values established for the soils at the site (Techna, 1990). The background value is equal to the mean of the background samples plus three standard deviations. Using this value and the Gosset student's t-test, soil underlying the drum storage pad exceeds the background values for arsenic, barium, cadmium, copper, mercury, nickel, selenium, and zinc (Techna, 1990).

The laboratory analysis for VOCs under the drum storage pad indicated that soils contain one or more of the following organic chemicals: 1,1,1-trichloroethane, trichloroethane, tetrachloroethene, 1,1,2,2-tetrachloroethane, and 1,1-dichloroethene (see Table 7).

Techna (1990) recommended additional investigation of the VOCs detected in the soil under the drum storage pad.

3.2.6 Additional Soil and Groundwater Sampling

On August 6 and 7, 1991, TEC advanced five soil borings and collected 37 soil and 3 groundwater samples from the soil surrounding the drum storage pad (GM-CPC, 1992). A drilling rig with hollow-stem augers was used to advance the soil borings to a depth of up to 25 feet below the drum storage pad. Soil boring SB-3 was advanced through the concrete pad near the center of the drum storage pad. The other soil borings SB-1, 2, 4, and 5 were advanced 50 feet to the north, east, south, and west of the drum storage pad.

Soil samples were collected with a split-spoon sampler (GM-CPC, 1992). Samples were collected at 2.5 foot intervals to a depth of 10 feet, and then at 5 foot intervals to depths of up to 25 feet below the drum storage pad. Prior to drilling and sampling, equipment was decontaminated using a high temperature, high pressure wash (steam cleaned). The split spoon samplers were also decontaminated with a detergent wash and then rinsed with methanol followed by de-ionized water.

Groundwater samples were collected with a temporary monitoring point constructed of stainless steel (GM-CPC, 1992). Before sampling, approximately five well volumes of the groundwater were removed from the temporary well. A teflon bailer was used to purge and collect the groundwater samples. Before purging and sample collection, the bailer was also decontaminated with a detergent wash and then rinsed with methane followed by de-ionized water.

3.2.7 Results of Additional Soil and Groundwater Sampling

The additional soil and groundwater investigation indicated that the drum storage pad is predominantly underlain by fine to medium-grained brown sand. Figures 5 and 6 present geologic cross-sections of the soil underlying the drum storage pad. Approximately two to five feet of fill material is present and is comprised of sand and gravel and sandy clay. The fill material reportedly contains occasional pebbles and coal fragments (Techna, 1990, GM-CPC, 1992). The fine to medium-grain sand underlies the fill material to a minimum depth of 25 feet below the ground surface. The sand is very loose to compact in density. Groundwater was observed in the sand at a depth of approximately 19 to 20 feet below the ground surface.

The soil samples and groundwater samples collected by TEC were submitted for laboratory analysis to WW Engineering and Science Laboratory in Grand Rapids, Michigan (GM-CPC, 1992). Each soil and groundwater sample was tested for 1,1,1-trichloroethane, trichloroethane, tetrachloroethene, 1,1,2,2-tetrachloroethane, and 1,1-dichloroethene using US EPA Method 8010. The laboratory analysis indicated that soil and groundwater samples contain one or more of the following organic chemicals: 1,1,1-trichloroethane, tetrachloroethene, and 1,1-dichloroethenethe (see Table 8).

3.2.8 Discussion

- **Use of the Drum Storage Pad**

  The drum storage pad had a limited use when the Fiero assembly plant was idled in July of 1988. The manifests document that hazardous waste was stored on the drum storage pad from September 1987 to February 1990.

  The hazardous waste drum storage pad received both solid and liquid wastes generated from a number of areas in the Fiero assembly plant. The wastes were placed in 55-gallon drums in the assembly plant, sealed when full, and transferred to the storage pad prior to off-site treatment or disposal. The wastes stored on the pad were DOO1 - Ignitable wastes, FOO1, FOO2, FOO3, and FOO5 listed

hazardous wastes. Copies of the manifest are contained in Techna (1990).

The hazardous waste drum storage pad was constructed to the south of the assembly plant in the area of the existing coal pile storage area. Photograph 1 shows the location of the drum storage pad relative to coal pile storage area. The pad consists of a 65 by 90 foot concrete slab that is approximately eight inches thick. A sump and a drain trench were constructed in the concrete pad to capture any spills or leaks. During operation of the pad the joints of the concrete pad were sealed and the pad was inspected and maintained. The area to west, east, and north of the drum storage pad is covered with concrete driveways for traffic along the south side of the assembly plant. No reported spills or leaking during the operation of the drum storage pad.

A review was conducted by RUST of all manifests for waste stored on this pad. The purpose of this review was to determine the quantity of chlorinated solvent. waste stored on this pad. This would be the only potential source from the storage pad that corresponds with chemicals found in soil.

Our review indicated that a total of 4 partial drums of F002 listed waste were stored on the pad. The description on the manifest was " Waste Paint Related Material". This is typically very viscous or solid waste paint. The total volume stored was 120 gallons.

These drums were shipped from the pad for disposal on July 15 and July 28, 1988.

- **Inspection of the Drum Storage Pad**

RUST inspected the drum storage pad on January 14, 1995. The concrete pad is generally in good condition (see Photograph 2). During the inspection, RUST observed a few fractures and poor seals in the concrete. All concrete slopes toward the sumps in the pad.

Fractures vary in length from 1 to 15 feet. Fractures are generally closed with no space between the opposite sides of the fractures. Closed fracture would not readily transmit water (see Photograph 3). Several fractures are open fractures with a space (less than 1/8 of an inch) between opposite sides of the fracture (see Photograph 4).

Seals in the concrete are generally in good condition and intact. Seals around the drain in the pad are not completely intact. (see Photograph 5). Some of the edges of the concrete pad have pulled away from the edges of the drain. Open spaces between the edges of the concrete up to 1/4 of an inch were observed. In some cases, the open spaces have allowed plant growth.

RUST compared the fractures and poor seals to the location of the soil borings B-1 to B-21. Boring B-14 is the only boring that appears to pass through one of the fractures. Borings B-8, B-11, B-12, and B-16 are located near the drain for the drum storage pad and several open fractures. Borings B-1, B-2, B-3, B-5, B-6, B-10, B-13, and B-17 are located within approximately two feet of one or more closed fractures. Borings B-4 and B-7 are located more than two feet from a fracture or seal.

If the fractures existed in 1988 and if they extended through the concrete, the fractures and failed seals may have represented potential paths of transport for a release from the drum storage pad. Thus, if a release occurred from the pad, metals and VOCs should be higher in the underlying soils near open fractures and seals around the drain (B-8, B-11, B-12, B-14, and B-16). Metals and VOCs should have lower concentrations in underlying soils located more than two feet from a fracture or seal (B-4 and B-7).

- **Metals In the Soil**

A statistical comparison indicates that metals in the soil underlying the drum storage pad exceed the background values for arsenic, barium, cadmium, copper, mercury, nickel, selenium, and zinc (Techna, 1990).

RUST compared the laboratory results for metals in background soils and soils underlying the drum storage pad to MDNR default Type A and Type B cleanup criteria for soils in Michigan (see Table 7). The default Type A cleanup criteria are presented in the MDNR Operational Memorandum # 15, dated September 20, 1993. The Type B cleanup criteria are presented in the MDNR Operational Memorandum # 8, Revision # 3, dated February 4, 1994. Background soil and soils underlying the drum storage pad exceed the MDNR Type A cleanup criteria for arsenic, barium, copper, lead, nickel, selenium, and zinc.

Metals in the soil underlying the drum storage pad are not related to a release from the drum storage pad for three reasons.

First, metals in the soils underlying the drum storage pad do not exceed typical values for soils in Michigan (Boerngen and Schalette, 1981, Waste Management Division, 1988, Kesler-Arnold and O'Hearn, 1990, Dragun and Chiasson, 1991) (see Table 5). Except for arsenic detected in the soils of boring B-1, the metals are typical of soils in southeastern Michigan. Even so, arsenic in agricultural soils in Michigan range from 0.94 to 90 ug/kg (Schalette, 1980, Dragun and Chiasson, 1991). Thus, the metals in the soil under the drum storage pad are typical of Michigan soils.

Second, Techna (1990) suggested that the metals in the soils may be attributed to the construction of the drum storage pad on an area previously used for coal storage. The coal storage is presently located to the south of the drum storage pad. A review of the historical aerial photographs indicates that the area of the drum storage pad had been used for coal storage for approximately 30 to 40 years (Techna, 1990). Coal-dust was observed during the description of soil borings (Techna, 1990). Coal from different geographic regions and compositions was used at the Fiero assembly plant over these years. Analysis of western coal and waste fly ash, which is produced by the burning of coal, indicate that a variety of metals occur in the coal used at the Fiero assembly plant (see Appendix J; Techna, 1990). Therefore, metals under the drum storage pad may be the result of naturally occurring metals contained in the coal particles in the soil.

Third, RUST compared metals in the soil to the location of fractures in the concrete pad. If there was a release from the drum storage pad, then metals should have higher concentrations near the fractures. A review of Table 6 and Figure 4 indicates that there is no relationship to the metals in the soil and the fractures observed in the drum storage pad. Boring B-14 that appears to pass through one of the fractures, has some of the lowest concentrations of metals in the soil. Borings B-4 and B-7 that are located more than two feet from a fracture or seal have the some of higher concentrations of arsenic, barium, mercury, and selenium. There is no transport mechanism to explain the metals in the soil, thus, they are most likely not related to the drum storage pad.

- **VOCs in Soil and Groundwater**

RUST compared the laboratory results for VOC in soils underlying the drum storage pad to MDNR Type B cleanup criteria for soils in Michigan (see Table 7 and 8). The Type B cleanup criteria are presented in the MDNR Operational Memorandum # 8, Revision # 3, dated February 4, 1994. Soils underlying the

drum storage pad exceed the MDNR Type B cleanup criteria for 1,1,1-trichloroethane, tetrachloroethene, and 1,1-dichloroethenethe.

VOCs in the soil underlying the drum storage pad are not related to a release from the drum storage pad for four reasons listed below. The VOCs in the soil under the drum storage pad are most likely related to previous historical activities.

First, the drum storage pad is predominantly underlain by fine to medium-grained brown sand (approximately two to five feet of fill material comprised of sand and gravel and sandy clay). The fill material reportedly contains occasional pebbles and coal fragments (Techna, 1990, GM-CPC, 1992). Groundwater was observed in the sand at a depth of approximately 19 to 20 feet below the ground surface. Figure 5 and 6 present geologic cross sections based on the previous subsurface investigations (GM-CPC, 1992). If during a point source release in permeable soil, VOCs should migrate vertically downward until they reach the underlying groundwater. A review of the Table 9 indicates that the VOCs extend from the ground surface to a depth of up 25 feet below the ground surface. The highest concentrations of organic chemicals are located to the east of the drum storage pad. No transport mechanism can explain the horizontal migration of VOCs in the underlying soils.

Second, RUST compare VOCs in the soil to the location of fractures in the concrete pad. If there was a release from the drum storage pad, then VOCs should have higher concentrations near the fractures. A review of Table 7 and Figure 4 indicates that no relationship between VOCs in the soil and the fractures observed in the drum storage pad. VOCs were detected in borings B-4 and B-7 more than two feet from a fracture or seal. There is no transport mechanism to explain the VOCs in the soil, thus, they are most likely not related to the drum storage pad.

Third, the rate of chemical migration can be predicted using published models of chemical mobility. The Analytic Leaching Model developed by Baes and Sharp (1983) can be used to estimate the rate of organic chemical migration in the unsaturated zone (Dragun, 1988). The model uses the following equation:

$$V_c = V_w / (WC \times K)$$

where: V_c = velocity of the chemical (cm/yr)
V_w = amount of annual percolation of soil water

WC = soil moisture content at field capacity
K = retardation factor of the chemical
= 1 + (b x K_d/WC)
where b = bulk dry density of soil (g/cm^3)
K_d = adsorption coefficient of the chemical (mL/g)

The following values were used to estimate the rate of chemical migration in the soils underlying the site:

V_w = 12.7 cm/yr (Dragun (1988)

WC = 0.15 (assumed soil moisture content for sand)
b = 1.44 g/cm^3

The adsorption coefficient for organic chemicals depends on the concentration of organic carbon content of the soils such that

K_{oc} = K_d /oc

where K_{oc} = soil adsorption coefficient normalized for organic content
oc = organic carbon content

The soil adsorption coefficient K_{oc} has been estimated for many organic chemicals including 1,1,1-trichloroethane (Dragun, 1988). The soil adsorption coefficient for 1,1,1-trichloroethane is 178 ml/g. If we assume a low organic carbon content (10%) for the soil, then the rate of chemical migration for 1,1,1-tetrachloroethane can be determined. Utilizing these values, a velocity for migration of 1,1,1-trichloroethane is 51 cm/yr. In other words, if 1,1,1-tetrachloroethane was released, it would take 6 years to migrate a distance of ten feet and over 12 years to migrate 20 feet. Thus, it is unlikely that the organic chemicals observed in the soil migrated from the drum storage pad because it was only in operation for three years.

Forth, the only potential source of chlorinated VOCs from the pad was 120 gallons of viscous "Waste Paint Related Material". This waste was disposed in July 1988. No spills were reported during this time period. Also fractures observed in 1994 were most likely not present when the pad was new in 1988.

3.2.9 Conclusions

RUST concludes that the chemicals in the soil are not the result of a release from the hazardous waste drum storage pad. This conclusion is based on the following reasons:

1) The metals in the soils may be attributed to previous use of this area for coal storage.

2) Metals in the soils do not exceed regional background concentrations for metals in Michigan soils.

3) No relationship of the metals in the soil to fractures were observed in the drum storage pad.

4) No transport mechanism exists to explain the metals in the soil.

5) Use of the drum pad for storage of hazardous waste was limited .

6) The drum storage pad was constructed to capture a release or spill.

7) No reported spills or leaks were reported during operation of the drum storage pad.

8) Concentration of VOCs in the underlying soils are not consistent with a release through a fracture or failed seal.

9) No transport mechanism can explain the horizontal migration of VOCs in the underlying soils.

10) There is only a limited potential waste source of chlorinated VOCs (120 gallons of viscous material in 1988).

11) Fractures in the pad observed in 1994 were most likely not present in 1988 when the pad was new.

12) Chemical rate of migration calculations indicate that the pad could not be the source of chlorinated VOCs in soil or groundwater.

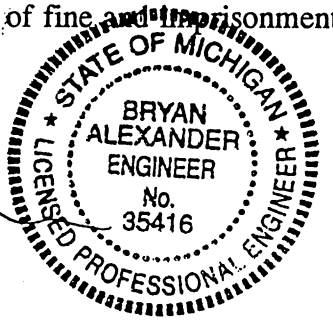
Based on these conclusions, that there was no release from the hazardous waste storage pad, GM requests that the RCRA status of the hazardous waste pad be closed.

4.0 CERTIFICATION OF CLOSURE

Based on information contained in this report, RUST and GM certify that there were no releases of hazardous waste from the Hazardous Waste Drum Storage Pad and the Hazardous Waste UST. Therefore GM requests closure of RCRA status for these two areas.

In accordance with 40 CFR §270.11(d), the following statements certify closure:

I certify under penalty of law that this document and all attachments were prepared under my direction of the site manager in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



1-30-95

Bryan Alexander, P.E.
RUST Environment & Infrastructure of Michigan, Inc.

Date

1-30-95

Franklin D. Preston
Pontiac Site Operations Manager
One Pontiac Plaza 483-012-101
Pontiac, Michigan 48340-2952

Date

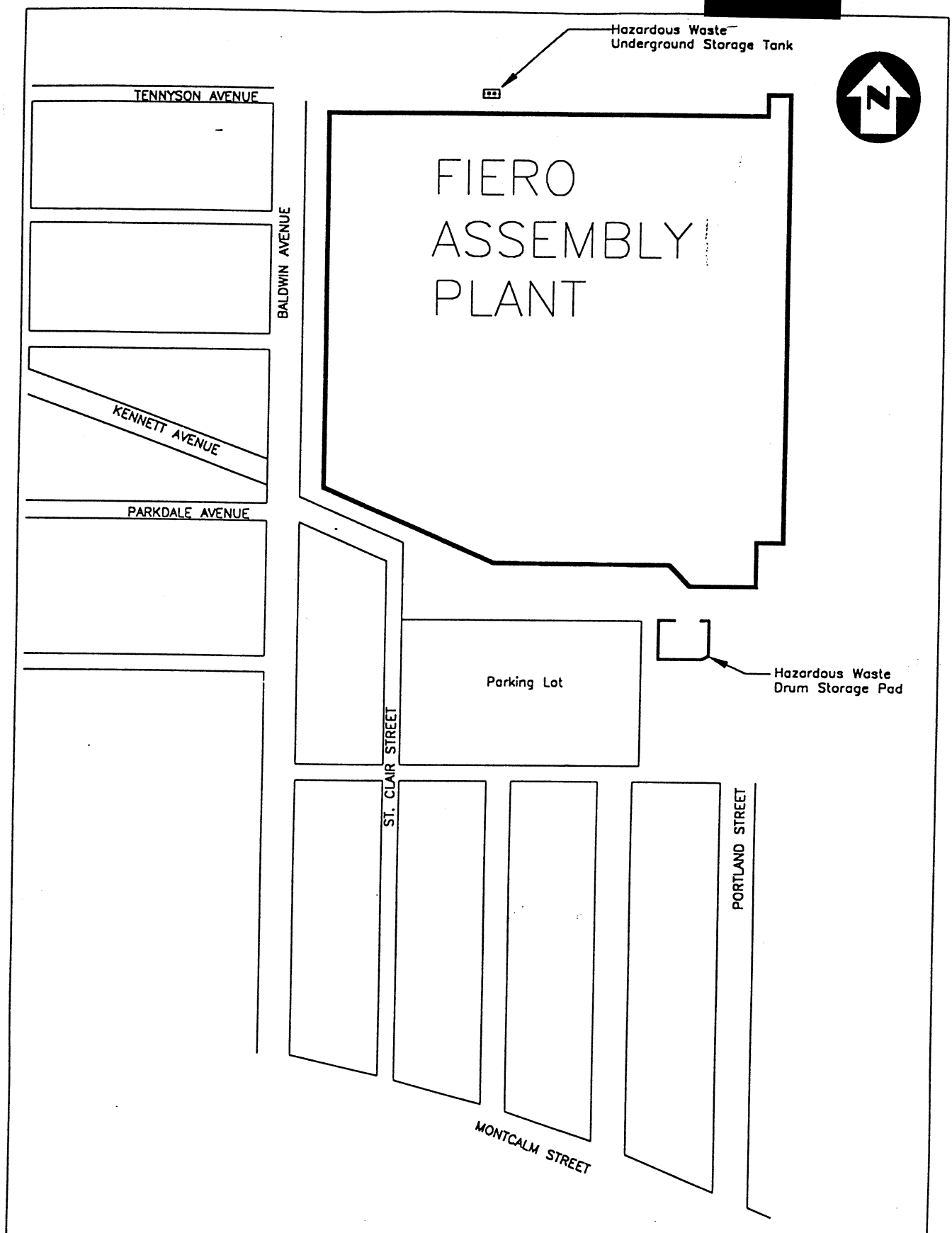
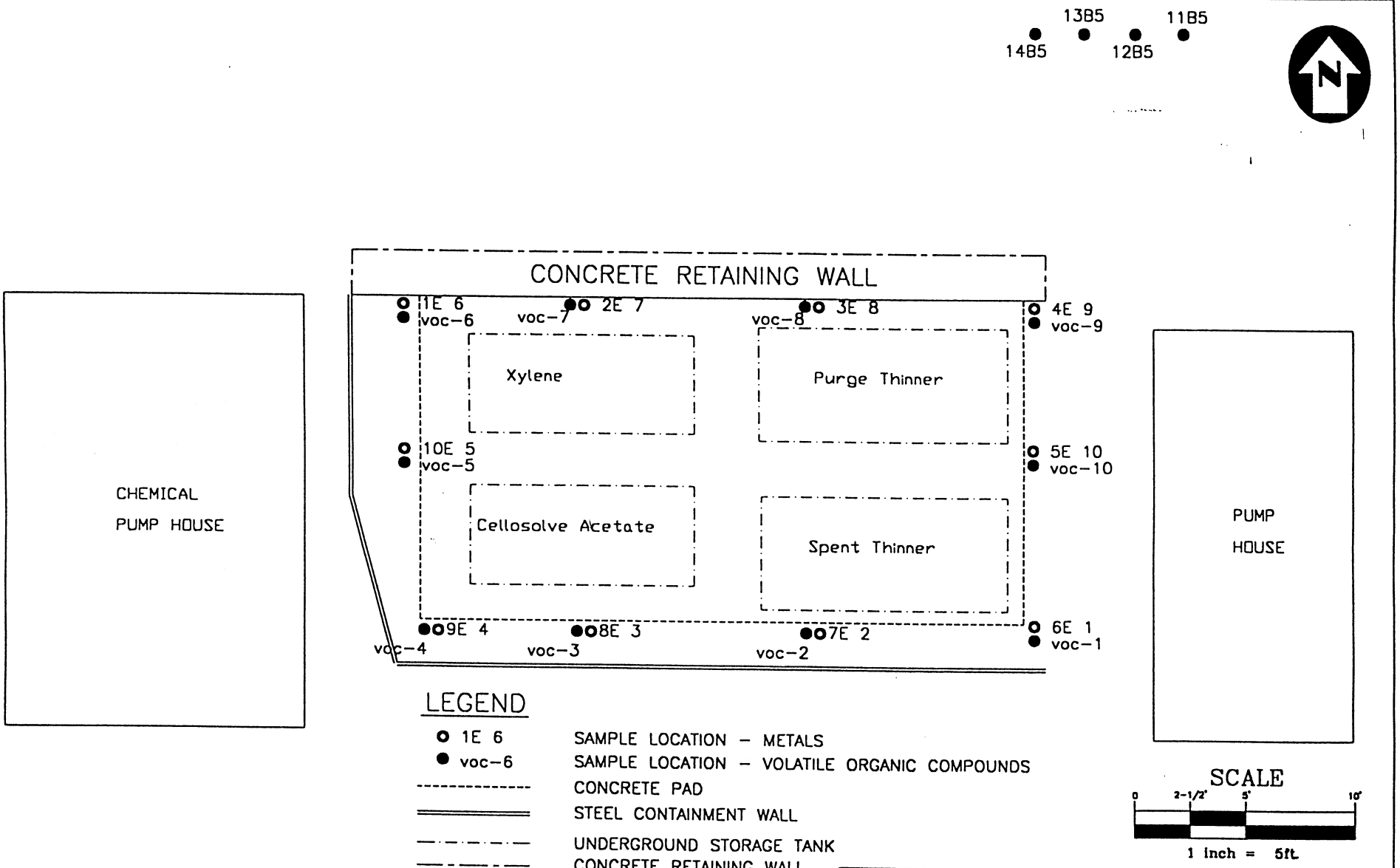


FIGURE 2 SITE PLAN

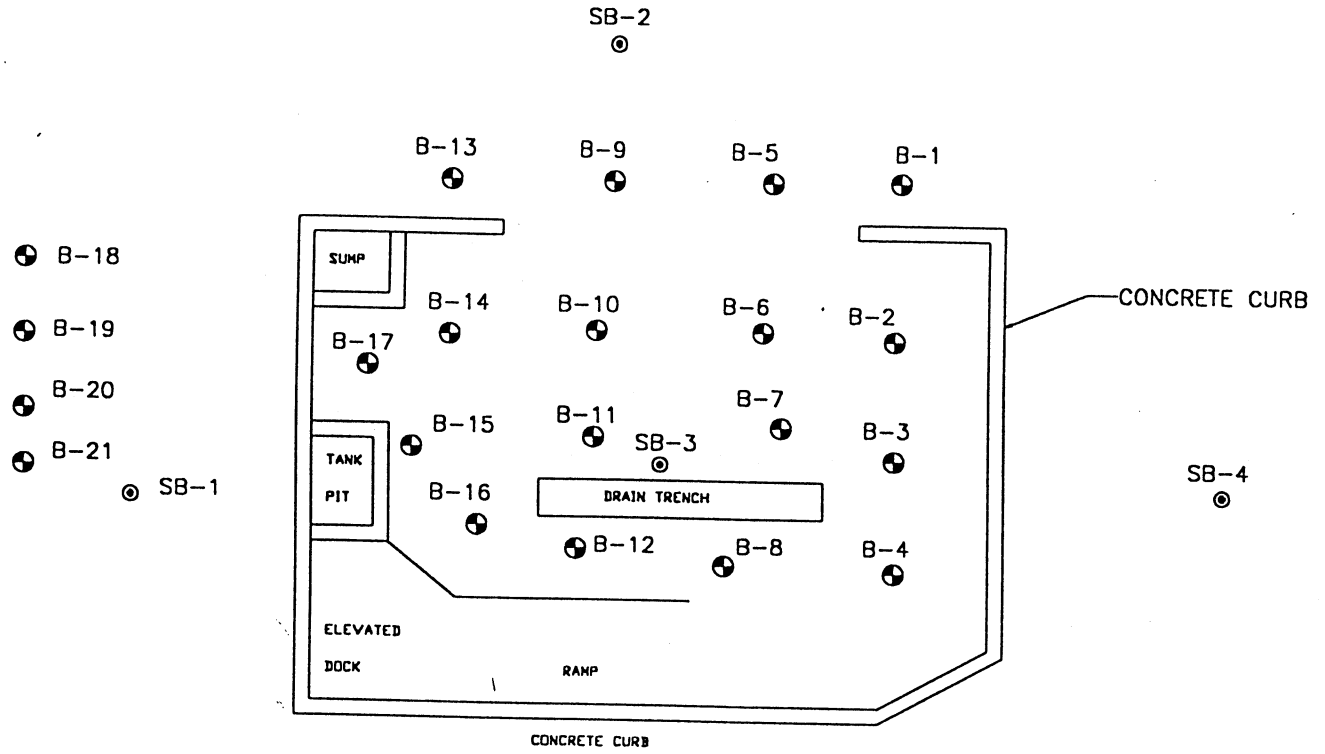
RUST ENVIRONMENT & INFRASTRUCTURE



NOTE:
This figure was reproduced from Techna (1990).

RUST ENVIRONMENT & INFRASTRUCTURE

FIGURE 3 LOCATION OF SOIL SAMPLES FOR HAZARDOUS WASTE UST



NOTES

1) This figure was reproduced from Techna (1990).
2) Location of soil borings SB-1 to SB-5 based on CPC-GM (1992).

LEGEND

- Soil Borings by Techna (B-1 – B-21)
- Soil Borings by TEC (SB-1 – SB-5)

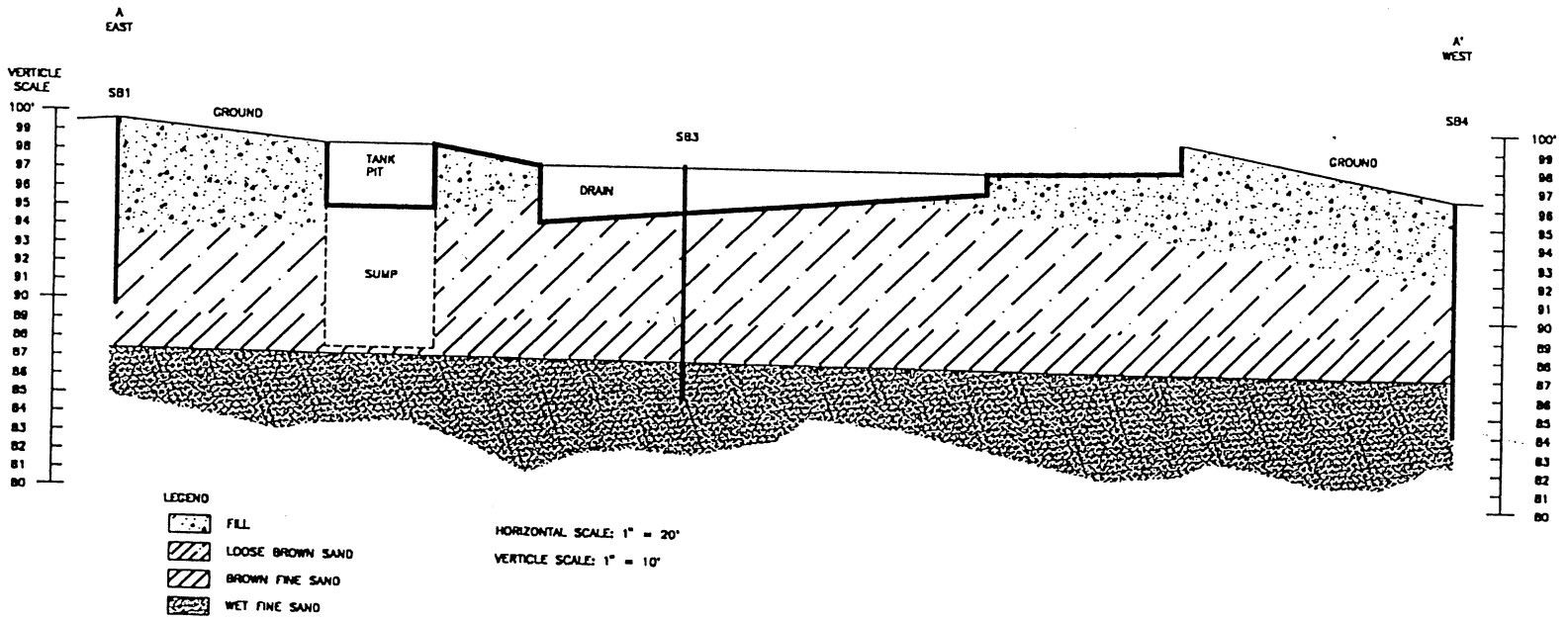
SCALE

0 12-1/2' 25' 50'

1 inch = 25ft.

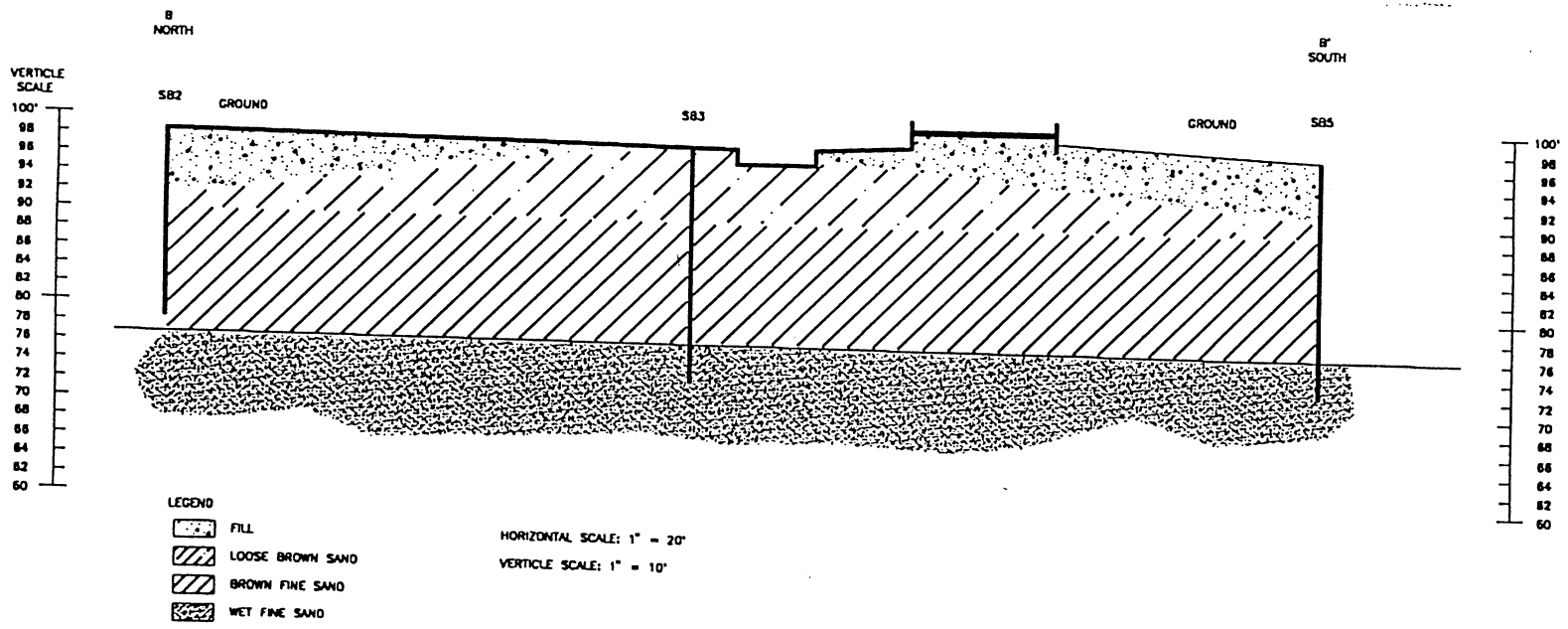
RUST ENVIRONMENT & INFRASTRUCTURE

FIGURE 4 LOCATION OF SOIL SAMPLES FROM HAZARDOUS WASTE DRUM STORAGE PAD



RUST ENVIRONMENT & INFRASTRUCTURE

FIGURE 5: GEOLOGIC CROSS-SECTION A - A'



RUST ENVIRONMENT & INFRASTRUCTURE

FIGURE 6: GEOLOGIC CROSS-SECTION B - B'

Table 1 Statistical Comparison of Metals in Soil
Hazardous Waste Underground Storage Tank
GM-CPC Fiero Assembly Plant
Pontiac, Michigan

	Background Metals	1E	2E	3E	4E	5E	6E	7E	8E	9E	10E
Arsenic	2.74	3.2	2.2	2.7	3.0	2.7	2.8	3.1	3.0	2.9	1.7
Barium	49.03	9.8	11.0	30.0	21.0	22.0	18.0	24.0	27.0	44.0	21.0
Cadmium	0.68	0.8	0.7	1.0	0.9	0.6	0.7	0.6	0.7	0.7	0.6
Chromium	8.80	4.3	2.8	3.3	3.2	2.8	3.2	2.6	3.4	3.0	2.8
Copper	5.82	18.0	7.4	8.4	11.0	7.5	8.1	6.9	9.4	8.6	6.7
Lead	8.34	67	23	12	13	16	21	13	22	23	22
Mercury	0.043	< 0.01	< 0.01	< 0.01	0.47	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	12.22	14.0	8.8	10.0	11.0	8.8	10.0	8.3	11.0	10.0	8.8
Selenium	0.86	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Silver	0.80	0.6	0.6	0.6	0.7	0.5	0.5	0.4	0.5	0.5	0.6
Zinc	17.23	39	20	150	28	23	28	22	59	30	23

	11-BS	12-BS	13-BS	14-BS	Mean (x)	Standard Deviation	Background Metals
Arsenic	2.4	1.9	2.1	2.1	2.13	0.21	2.74
Barium	6.5	20.0	30.0	8.5	16.25	10.93	49.03
Cadmium	0.5	0.5	0.6	0.5	0.53	0.05	0.68
Chromium	5.9	2.0	2.1	2.0	3.00	1.93	8.80
Copper	5.3	5.0	4.6	4.8	4.93	0.30	5.82
Lead	7.4	7.1	7.7	7.7	7.48	0.29	8.34
Mercury	< 0.01	< 0.01	< 0.01	< 0.01	<0.01	0.011	0.043
Nickel	7.6	7.5	10.0	6.7	7.95	1.42	12.22
Selenium	< 0.20	< 0.20	< 0.20	< 0.20	< 0.22	0.22	0.86
Silver	0.3	0.4	0.4	0.6	0.43	0.13	0.80
Zinc	15	15	16	16	15.50	0.58	17.23

Table 2 Statistical Comparison of Volatile Organic Compounds in Soil
Hazardous Waste Underground Storage Tank
GM-CPC Fiero Assembly Plant
Pontiac, Michigan

	1	2	3	4	5	6	7	8	9	10
ethylbenzene	ND	ND	ND	ND	0.32	ND	ND	ND	0.16	ND
m + p xylene	ND	ND	ND	ND	0.13	ND	ND	ND	0.66	ND
o-Xylene	ND	ND	ND	ND	0.76	ND	ND	ND	0.25	ND

Table 3 Results of Metals in Soil Compared to MDNR Type A and B Cleanup Criteria
Hazardous Waste Underground Storage Tank
GM-CPC Fiero Assembly Plant
Pontiac, Michigan

	Type A Criteria	Type B Criteria	1E	2E	3E	4E	5E	6E	7E	8E	9E	10E
Arsenic	5.8	0.0004	3.2	2.2	2.7	3.0	2.7	2.8	3.1	3.0	2.9	1.7
Barium	75	48	9.8	11.0	30.0	21.0	22.0	18.0	24.0	27.0	44.0	21.0
Cadmium	1.2	0.007	0.8	0.7	1.0	0.9	0.6	0.7	0.6	0.7	0.7	0.6
Chromium	18	2.4	4.3	2.8	3.3	3.2	2.8	3.2	2.6	3.4	3.0	2.8
Copper	32	20	18.0	7.4	8.4	11.0	7.5	8.1	6.9	9.4	8.6	6.7
Lead	21	400	67	23	12	13	16	21	13	22	23	22
Mercury	0.13	0.042	< 0.01	< 0.01	< 0.01	0.47	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	20	11	14.0	8.8	10.0	11.0	8.8	10.0	8.3	11.0	10.0	8.8
Selenium	0.41	0.7	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Silver	1	0.66	0.6	0.6	0.6	0.7	0.5	0.5	0.4	0.5	0.5	0.6
Zinc	47	46	39	20	150	28	23	28	22	59	30	23

	Type A Criteria	Type B Criteria	11-BS	12-BS	13-BS	14-BS
Arsenic	5.8	0.0004	2.4	1.9	2.1	2.1
Barium	75	48	6.5	20.0	30.0	8.5
Cadmium	1.2	0.007	0.5	0.5	0.6	0.5
Chromium	18	2.4	5.9	2.0	2.1	2.0
Copper	32	20	5.3	5.0	4.6	4.8
Lead	21	400	7.4	7.1	7.7	7.7
Mercury	0.13	0.042	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	20	11	7.6	7.5	10.0	6.7
Selenium	0.41	0.7	< 0.20	< 0.20	< 0.20	< 0.20
Silver	1	0.66	0.3	0.4	0.4	0.6
Zinc	47	46	15	15	16	16

Table 4 Comparison of Metals in Soil to Typical Concentrations of Michigan Soils
Hazardous Waste Underground Storage Tank
GM-CPC Flero Assembly Plant
Pontiac, Michigan

	Michigan Soils	1E	2E	3E	4E	5E	6E	7E	8E	9E	10E
Arsenic	(< 0.005 - 90)*	3.2	2.2	2.7	3.0	2.7	2.8	3.1	3.0	2.9	1.7
Barium	< 0.05 - 291	9.8	11.0	30.0	21.0	22.0	18.0	24.0	27.0	44.0	21.0
Cadmium	< 0.032 - 4.4	0.8	0.7	1.0	0.9	0.6	0.7	0.6	0.7	0.7	0.6
Chromium	0.8 - 58	4.3	2.8	3.3	3.2	2.8	3.2	2.6	3.4	3.0	2.8
Copper	< 0.4 - 74	18.0	7.4	8.4	11.0	7.5	8.1	6.9	9.4	8.6	6.7
Lead	< 0.5 - 140	67	23	12	13	16	21	13	22	23	22
Mercury	< 0.005 - 0.70	< 0.01	< 0.01	< 0.01	0.47	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	2.0 - 53	14.0	8.8	10.0	11.0	8.8	10.0	8.3	11.0	10.0	8.8
Selenium	< 0.015- < 15.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Silver	< 0.1 - 4.2	0.6	0.6	0.6	0.7	0.5	0.5	0.4	0.5	0.5	0.6
Zinc	< 0.4 - 150	39	20	150	28	23	28	22	59	30	23

	Michigan Soils	11-BS	12-BS	13-BS	14-BS
Arsenic	(< 0.005 - 90)*	2.4	1.9	2.1	2.1
Barium	< 0.05 - 291	6.5	20.0	30.0	8.5
Cadmium	< 0.032 - 4.4	0.5	0.5	0.6	0.5
Chromium	0.8 - 58	5.9	2.0	2.1	2.0
Copper	< 0.4 - 74	5.3	5.0	4.6	4.8
Lead	< 0.5 - 140	7.4	7.1	7.7	7.7
Mercury	< 0.005 - 0.28	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	2.0 - 53	7.6	7.5	10.0	6.7
Selenium	< 0.015- < 15.5	< 0.20	< 0.20	< 0.20	< 0.20
Silver	< 0.1 - 4.2	0.3	0.4	0.4	0.6
Zinc	< 0.4 - 150	15	15	16	16

Table 5 Statistical Comparison of Volatile Organic Compounds in Soil
Hazardous Waste Underground Storage Tank
GM-CPC Fiero Assembly Plant
Pontiac, Michigan

	Type A Criteria	Type B Criteria	1	2	3	4	5	6	7	8	9	10
ethylbenzene	0.01	1.5	ND	ND	ND	ND	0.32	ND	ND	ND	0.16	ND
m + p xylene	0.03	5.6	ND	ND	ND	ND	0.13	ND	ND	ND	0.66	ND
o-Xylene	0.03	5.6	ND	ND	ND	ND	0.76	ND	ND	ND	0.25	ND

Table 3 Results of Metals in Soil Compared to MDNR Type A and B Cleanup Criteria
Hazardous Waste Underground Storage Tank
GM-CPC Fiero Assembly Plant
Pontiac, Michigan

	Type A Criteria	Type B Criteria	1E	2E	3E	4E	5E	6E	7E	8E	9E	10E
Arsenic	5.8	0.0004	3.2	2.2	2.7	3.0	2.7	2.8	3.1	3.0	2.9	1.7
Barium	75	48	9.8	11.0	30.0	21.0	22.0	18.0	24.0	27.0	44.0	21.0
Cadmium	1.2	0.007	0.8	0.7	1.0	0.9	0.6	0.7	0.6	0.7	0.7	0.6
Chromium	18	2.4	4.3	2.8	3.3	3.2	2.8	3.2	2.6	3.4	3.0	2.8
Copper	32	20	18.0	7.4	8.4	11.0	7.5	8.1	6.9	9.4	8.6	6.7
Lead	21	400	67	23	12	13	16	21	13	22	23	22
Mercury	0.13	0.042	< 0.01	< 0.01	< 0.01	0.47	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	20	11	14.0	8.8	10.0	11.0	8.8	10.0	8.3	11.0	10.0	8.8
Selenium	0.41	0.7	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Silver	1	0.66	0.6	0.6	0.6	0.7	0.5	0.5	0.4	0.5	0.5	0.6
Zinc	47	46	39	20	150	28	23	28	22	59	30	23

	Type A Criteria	Type B Criteria	11-BS	12-BS	13-BS	14-BS
Arsenic	5.8	0.0004	2.4	1.9	2.1	2.1
Barium	75	48	6.5	20.0	30.0	8.5
Cadmium	1.2	0.007	0.5	0.5	0.6	0.5
Chromium	18	2.4	5.9	2.0	2.1	2.0
Copper	32	20	5.3	5.0	4.6	4.8
Lead	21	400	7.4	7.1	7.7	7.7
Mercury	0.13	0.042	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	20	11	7.6	7.5	10.0	6.7
Selenium	0.41	0.7	< 0.20	< 0.20	< 0.20	< 0.20
Silver	1	0.66	0.3	0.4	0.4	0.6
Zinc	47	46	15	15	16	16

Table 4 Comparison of Metals in Soil to Typical Concentrations of Michigan Soils
Hazardous Waste Underground Storage Tank
GM-CPC Fiero Assembly Plant
Pontiac, Michigan

	Michigan Soils	1E	2E	3E	4E	5E	6E	7E	8E	9E	10E
Arsenic	(< 0.005 - 90)*	3.2	2.2	2.7	3.0	2.7	2.8	3.1	3.0	2.9	1.7
Barium	< 0.05 - 291	9.8	11.0	30.0	21.0	22.0	18.0	24.0	27.0	44.0	21.0
Cadmium	< 0.032 - 4.4	0.8	0.7	1.0	0.9	0.6	0.7	0.6	0.7	0.7	0.6
Chromium	0.8 - 58	4.3	2.8	3.3	3.2	2.8	3.2	2.6	3.4	3.0	2.8
Copper	< 0.4 - 74	18.0	7.4	8.4	11.0	7.5	8.1	6.9	9.4	8.6	6.7
Lead	< 0.5 - 140	67	23	12	13	16	21	13	22	23	22
Mercury	< 0.005 - 0.70	< 0.01	< 0.01	< 0.01	0.47	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	2.0 - 53	14.0	8.8	10.0	11.0	8.8	10.0	8.3	11.0	10.0	8.8
Selenium	< 0.015- < 15.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Silver	< 0.1 - 4.2	0.6	0.6	0.6	0.7	0.5	0.5	0.4	0.5	0.5	0.6
Zinc	< 0.4 - 150	39	20	150	28	23	28	22	59	30	23

	Michigan Soils	11-BS	12-BS	13-BS	14-BS
Arsenic	(< 0.005 - 90)*	2.4	1.9	2.1	2.1
Barium	< 0.05 - 291	6.5	20.0	30.0	8.5
Cadmium	< 0.032 - 4.4	0.5	0.5	0.6	0.5
Chromium	0.8 - 58	5.9	2.0	2.1	2.0
Copper	< 0.4 - 74	5.3	5.0	4.6	4.8
Lead	< 0.5 - 140	7.4	7.1	7.7	7.7
Mercury	< 0.005 - 0.28	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	2.0 - 53	7.6	7.5	10.0	6.7
Selenium	< 0.015- < 15.5	< 0.20	< 0.20	< 0.20	< 0.20
Silver	< 0.1 - 4.2	0.3	0.4	0.4	0.6
Zinc	< 0.4 - 150	15	15	16	16

Table 5 Statistical Comparison of Volatile Organic Compounds in Soil
Hazardous Waste Underground Storage Tank
GM-CPC Fiero Assembly Plant
Pontiac, Michigan

	Type A Criteria	Type B Criteria	1	2	3	4	5	6	7	8	9	10
ethylbenzene	0.01	1.5	ND	ND	ND	ND	0.32	ND	ND	ND	0.16	ND
m + p xylene	0.03	5.6	ND	ND	ND	ND	0.13	ND	ND	ND	0.66	ND
o-Xylene	0.03	5.6	ND	ND	ND	ND	0.76	ND	ND	ND	0.25	ND

Table 6 Statistical Comparison of Metals in Soil
Hazardous Waste Drum Storage Pad
GM-CPC Fiero Assembly Plant
Pontiac, Michigan

	Background Metals	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17
Arsenic	11.11	84.0	8.6	9.7	16.0	18.0	19.0	24.0	19.0	20.0	3.5	3.3	14.0	9.0	5.3	7.2	9.8	7.8
Barium	133.59	51	72	21	110	190	220	210	110	110	59	58	120	54	50	54	16	32
Cadmium	1.06	1.1	0.7	0.8	0.3	0.3	0.3	0.3	0.3	0.2	0.6	0.4	0.3	0.5	0.6	0.4	0.9	0.7
Chromium	16.51	3.7	6.8	5.7	3.2	4.1	3.9	3.9	3.2	3.0	2.4	1.7	1.9	3.1	4.6	2.0	7.3	3.8
Copper	22.91	52.0	17.0	16.0	22.0	22.0	21.0	20.0	21.0	19.0	6.7	8.1	17.0	12.0	15.0	12.0	16.0	12.0
Lead	67.41	14.0	16.0	16.0	11.0	12.0	11.0	11.0	9.7	9.0	8.5	6.6	8.2	14.0	13.0	8.7	15.0	12.0
Mercury	0.043	0.023	< 0.01	< 0.01	< 0.01	0.037	0.061	0.057	0.057	< 0.01	0.16	0.033	0.093	0.24	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	37.10	41	22	20	11.0	12.0	12.0	13.0	10.0	9.7	7.9	18	9.8	11	18	8.5	24	14
Selenium	1.18	6.0	1.7	1.2	3.5	4.6	4.8	4.5	4.6	5.1	< 0.20	0.79	3.3	2.1	0.42	1.3	2.0	2.1
Silver	0.72	0.5	0.5	0.5	0.2	0.1	<0.1	0.3	0.1	<0.1	0.3	0.2	<0.1	0.2	0.4	0.1	0.6	0.4
Zinc	78.75	140	38	46	14	14	12	15	13	12	22	15	10	18	24	12	40	26

	B18	B19	B20	B21	Mean (x)	Standard Deviation	Background Metals
Arsenic	5.7	8.9	7.0	7.0	7.15	1.32	11.11
Barium	5	58	74	28	41.25	30.78	133.59
Cadmium	0.8	0.5	0.4	0.5	0.55	0.17	1.06
Chromium	6.1	11	10	11	9.52	2.33	16.51
Copper	14	19	17	15	16.25	2.22	22.91
Lead	13	11	16	44	21	15.47	67.41
Mercury	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.011	0.043
Nickel	20	29	20	17	21.5	5.2	37.10
Selenium	0.18	< 0.20	0.22	0.76	0.34	0.28	1.18
Silver	0.5	0.3	0.2	0.2	0.3	0.14	0.72
Zinc	33	42	49	59	45.75	11	78.75

Table 8 (cont'd) Results of Volatile Organic Chemicals in Soil Compared to MDNR Type A and Type B Cleanup Criteria
Hazardous Waste Drum Storage Pad
GM-CPC Fiero Assembly Plant
Pontiac, Michigan

	Type A Criteria	Type B Criteria	SB-4 0.5-2	SB-4 2.5-4	SB-4 4.5-6	SB-4 6.5-8	SB-4 8.5-10	SB-4 13.5-15	SB-4 18.5-20	SB-4 23.5-25	Ground Water
1,1-dichloroethene	10	17000	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10
1,1,1-trichloroethane	10	13	16	< 10	100	150	59	28	140	28	140
trichloroethene	10	44	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
tetrachloroethene	10	14	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10
1,1,2,2-tetrachloroethane	10	3.6	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

	Type A Criteria	Type B Criteria	SB-5 0.5-2	SB-5 2.5-4	SB-5 4.5-6	SB-5 6.5-8	SB-5 8.5-10	SB-5 13.5-15	SB-5 18.5-20	SB-5 23.5-25	Ground Water
1,1-dichloroethene	10	17000	< 10	< 10	< 10	< 10	< 10	< 10	36	< 10	< 10
1,1,1-trichloroethane	10	13	400	440	580	55	160	92	380	28	140
trichloroethene	10	44	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
tetrachloroethene	10	14	< 10	< 10	< 10	< 10	< 10	15	< 10	< 10	< 10
1,1,2,2-tetrachloroethane	10	3.6	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Table 9 Results of Metals in Soil Compared to MDNR Type A Cleanup Criteria
Hazardous Waste Drum Storage Pad
GM-CPC Fiero Assembly Plant
Pontiac, Michigan

	Type A Criteria	Type B Criteria	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17
Arsenic	5.8	0.0004	84.0	8.6	9.7	16.0	18.0	19.0	24.0	19.0	20.0	3.5	3.3	14.0	9.0	5.3	7.2	9.8	7.8
Barium	75	48	51	72	21	110	190	220	210	110	110	59	58	120	54	50	54	16	32
Cadmium	1.2	0.007	1.1	0.7	0.8	0.3	0.3	0.3	0.3	0.3	0.2	0.6	0.4	0.3	0.5	0.6	0.4	0.9	0.7
Chromium	18	2.4	3.7	6.8	5.7	3.2	4.1	3.9	3.9	3.2	3.0	2.4	1.7	1.9	3.1	4.6	2.0	7.3	3.8
Copper	32	20	52.0	17.0	16.0	22.0	22.0	21.0	20.0	21.0	19.0	6.7	8.1	17.0	12.0	15.0	12.0	16.0	12.0
Lead	21	400	14.0	16.0	16.0	11.0	12.0	11.0	11.0	9.7	9.0	8.5	6.6	8.2	14.0	13.0	8.7	15.0	12.0
Mercury	0.13	0.042	0.023	< 0.01	< 0.01	< 0.01	0.037	0.061	0.057	0.057	< 0.01	0.16	0.033	0.093	0.24	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	20	11	41	22	20	11.0	12.0	12.0	13.0	10.0	9.7	7.9	18	9.8	11	18	8.5	24	14
Selenium	0.41	0.7	6.0	1.7	1.2	3.5	4.6	4.8	4.5	4.6	5.1	< 0.20	0.79	3.3	2.1	0.42	1.3	2.0	2.1
Silver	1	0.66	0.5	0.5	0.5	0.2	0.1	<0.1	0.3	0.1	<0.1	0.3	0.2	<0.1	0.2	0.4	0.1	0.6	0.4
Zinc	47	46	140	38	46	14	14	12	15	13	12	22	15	10	18	24	12	40	26

	Type A Criteria	Type B Criteria	B18	B19	B20	B21
Arsenic	5.8	0.0004	5.7	8.9	7.0	7.0
Barium	75	48	5	58	74	28
Cadmium	1.2	0.007	0.8	0.5	0.4	0.5
Chromium	18	2.4	6.1	11	10	11
Copper	32	20	14	19	17	15
Lead	21	400	13	11	16	44
Mercury	0.13	0.042	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	20	11	20	29	20	17
Selenium	0.41	0.7	0.18	< 0.20	0.22	0.76
Silver	1	0.66	0.5	0.3	0.2	0.2
Zinc	47	46	33	42	49	59

Table 10 Comparison of Metals in Soil to Typical Concentrations of Michigan Soils
Hazardous Waste Drum Storage Pad
GM-CPC Fiero Assembly Plant
Pontiac, Michigan

	Michigan Soils	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17
Arsenic	(< 0.005 - 90)*	84.0	8.6	9.7	16.0	18.0	19.0	24.0	19.0	20.0	3.5	3.3	14.0	9.0	5.3	7.2	9.8	7.8
Barium	< 0.05 - 291	51	72	21	110	190	220	210	110	110	59	58	120	54	50	54	16	32
Cadmium	< 0.032 - 4.4	1.1	0.7	0.8	0.3	0.3	0.3	0.3	0.3	0.2	0.6	0.4	0.3	0.5	0.6	0.4	0.9	0.7
Chromium	0.8 - 58	3.7	6.8	5.7	3.2	4.1	3.9	3.9	3.2	3.0	2.4	1.7	1.9	3.1	4.6	2.0	7.3	3.8
Copper	< 0.4 - 74	52.0	17.0	16.0	22.0	22.0	21.0	20.0	21.0	19.0	6.7	8.1	17.0	12.0	15.0	12.0	16.0	12.0
Lead	< 0.5 - 140	14.0	16.0	16.0	11.0	12.0	11.0	11.0	9.7	9.0	8.5	6.6	8.2	14.0	13.0	8.7	15.0	12.0
Mercury	< 0.005 - 0.7	0.023	< 0.01	< 0.01	< 0.01	0.037	0.061	0.057	0.057	< 0.01	0.16	0.033	0.093	0.24	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	2.0 - 53	41	22	20	11.0	12.0	12.0	13.0	10.0	9.7	7.9	18	9.8	11	18	8.5	24	14
Selenium	< 0.015- < 15.5	6.0	1.7	1.2	3.5	4.6	4.8	4.5	4.6	5.1	< 0.20	0.79	3.3	2.1	0.42	1.3	2.0	2.1
Silver	< 0.1 - 4.2	0.5	0.5	0.5	0.2	0.1	<0.1	0.3	0.1	<0.1	0.3	0.2	<0.1	0.2	0.4	0.1	0.6	0.4
Zinc	< 0.4 - 150	140	38	46	14	14	12	15	13	12	22	15	10	18	24	12	40	26

	Michigan Soils	B18	B19	B20	B21
Arsenic	(< 0.005 - 90)*	5.7	8.9	7.0	7.0
Barium	< 0.05 - 291	5	58	74	28
Cadmium	< 0.032 - 4.4	0.8	0.5	0.4	0.5
Chromium	0.8 - 58	6.1	11	10	11
Copper	< 0.4 - 74	14	19	17	15
Lead	< 0.5 - 140	13	11	16	44
Mercury	< 0.005 - 0.28	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	2.0 - 53	20	29	20	17
Selenium	< 0.015- < 15.5	0.18	< 0.20	0.22	0.76
Silver	< 0.1 - 4.2	0.5	0.3	0.2	0.2
Zinc	< 0.4 - 150	33	42	49	59

NATURAL RESOURCES COMMISSION
THOMAS J. ANDERSON
MARLENE J. FLUHARTY
KERRY KAMMER
O. STEWART MYERS
DAVID D. OLSON
RAYMOND POUPORE

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

GORDON E. GUYER, Director

February 3, 1988

Mr. Gerald A. Moore, Superintendent
Plant Engineering
GM C-P-C Fiero Assembly
One Pontiac Plaza
Pontiac, Michigan 48053

Dear Mr. Moore:

SUBJECT: GM C-P-C Fiero Assembly
MID 005 356 910
Closure Plan Approval/Closure Certification

Michigan Department of Natural Resources (MDNR) has reviewed the closure plan and closure certification most recently submitted on November 17, 1987 and has found them to be acceptable.

As a result, MDNR is approving the closure plan and closure certification and releasing GM C-P-C Fiero Assembly from the financial assurance requirements for closure under 40 CFR 265.143(h) for the container storage area that was closed. However, the closure cost estimate must be revised and financial assurance provided for the container storage area now being used.

Approval of closure of a Resource Conservation and Recovery Act (RCRA) interim status unit does not release the facility from its responsibilities under the Hazardous and Solid Waste Amendment of 1984 (HSWA). Closure does not terminate interim status and, therefore, the company may be responsible for corrective action if U.S. EPA or MDNR determines that a release of hazardous waste or hazardous waste constituents is taking or has taken place from a solid waste management unit as defined under HSWA.

R1026
no

The closure of this storage pad was unique in that most of the closure was carried out before a plan was submitted to MDNR. This is not an acceptable practice. In the future, GM C-P-C Fiero must submit any construction or closure plans related to the hazardous waste storage area for MDNR approval before construction may begin.

If you have any questions, please contact Mr. Stephen Blayer at 517-373-7739 or me.

Sincerely,

Alan J. Howard, Chief
Waste Management Division
517-373-9523

cc: Mr. Rich Traub, U.S. EPA - Region V
Ms. Marilyn Sabadaszka, U.S. EPA - Region V
Mr. Ken Burda, WMD/C&E File
Ms. Becky Kocsis, WMD
Ms. Lynne King, WMD, Detroit
Mr. Stephen Blayer, WMD

Chevrolet · Pontiac · Canada Group
Pontiac Fiero Plant
General Motors Corporation
One Pontiac Plaza
Pontiac, Michigan 48058 · 3487

November 4, 1987

Mr. Steven Blayer
Environmental Engineer
Michigan Department Of Natural Resources

RE: REVISION OF PART "A" - RCRA PERMIT FOR GMC - CPC FIERO PLANT
MID005356910

Dear Mr. Blayer,

PLEASE REVISE PART A - RCRA PERMIT MID005356910 AS FOLLOWS:

Change the facility mailing address from 900 Baldwin, Pontiac, MI. 48055 to One Pontiac Plaza, Pontiac, MI. 48058.

REVISE FORM 3 - PART IV - DESCRIPTION OF HAZARDOUS WASTES AS FOLLOWS:

1. Add line 3 - F003 - 10 - T - S01

   Waste solvents containing Acetone are now generated.

2. Add line 4 - F001 - 2 - T - S01

   1,1,1, - Trichloroethane is now generated as a Spent Degreaser Waste.

3. A new Drum Storage Area has been constructed and the location is shown on Page 5 of 5. The new area is constructed of concrete; contained and has the same storage capacity (370 Drums) as the former area.

G. A. Moore
Superintendent
CPC - Fiero Assembly
Plant Engineering

GAM/dh

cc: R. Kieft - PMD
W. Collinson - E.A.S.
L. Garey - C.P.C. Headquarters
F. Heiman
E. Ardiente - U.S. EPA - Region V

RCRA

EPA

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

RCRA

I.D. NUMBER: F M I D 0 0 5 3 5 6 9 1 0

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

I. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C	YR.	MO.	DAY
8			

☐ 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. **AMOUNT** – Enter the amount.
2. **UNIT OF MEASURE** – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR OR GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP Y/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S01	18,700	G		7				
2	S02	12,000	G		8				
3					9				
4					10				

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

V. DESCRIPTION OF HAZARDOUS WASTES

- **EPA HAZARDOUS WASTE NUMBER** – Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

- **ESTIMATED ANNUAL QUANTITY** – For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

- **UNIT OF MEASURE** – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

- **PROCESSES**
  1. PROCESS CODES:
     For listed hazardous wastes: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
     For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
     Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.
  2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
X-1	K054	900	P	T03 D80	
	0002	400	P	T03 D80	
X-3	D001	100	P	T03 D80	
X-4	D002				included with above

EPA I.D. NUMBER (enter from page 1)

W | M | I | D | 0 | 0 | 5 | 3 | 5 | 6 | 9 | 1 | 0 | | 1

W | DUP | | 2 | DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D001	68	T	S01	
2	F005	400	T	S02	
3	F003	10	T	S01	
4	F001	2	T	S01	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
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16					
17					
18					
19					
20					
21					
22					
23					
24					
26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

(enter "A", "B", "C", etc. behind the "3" to identify photocopied pages)

...ON OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. *(enter from page 1)*

											T/R	C
W	E	D	0	0	5	3	5	6	9	1	0	6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
42 39 41 N	083 17 40 W

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	C G		

IX. OWNER CERTIFICATION

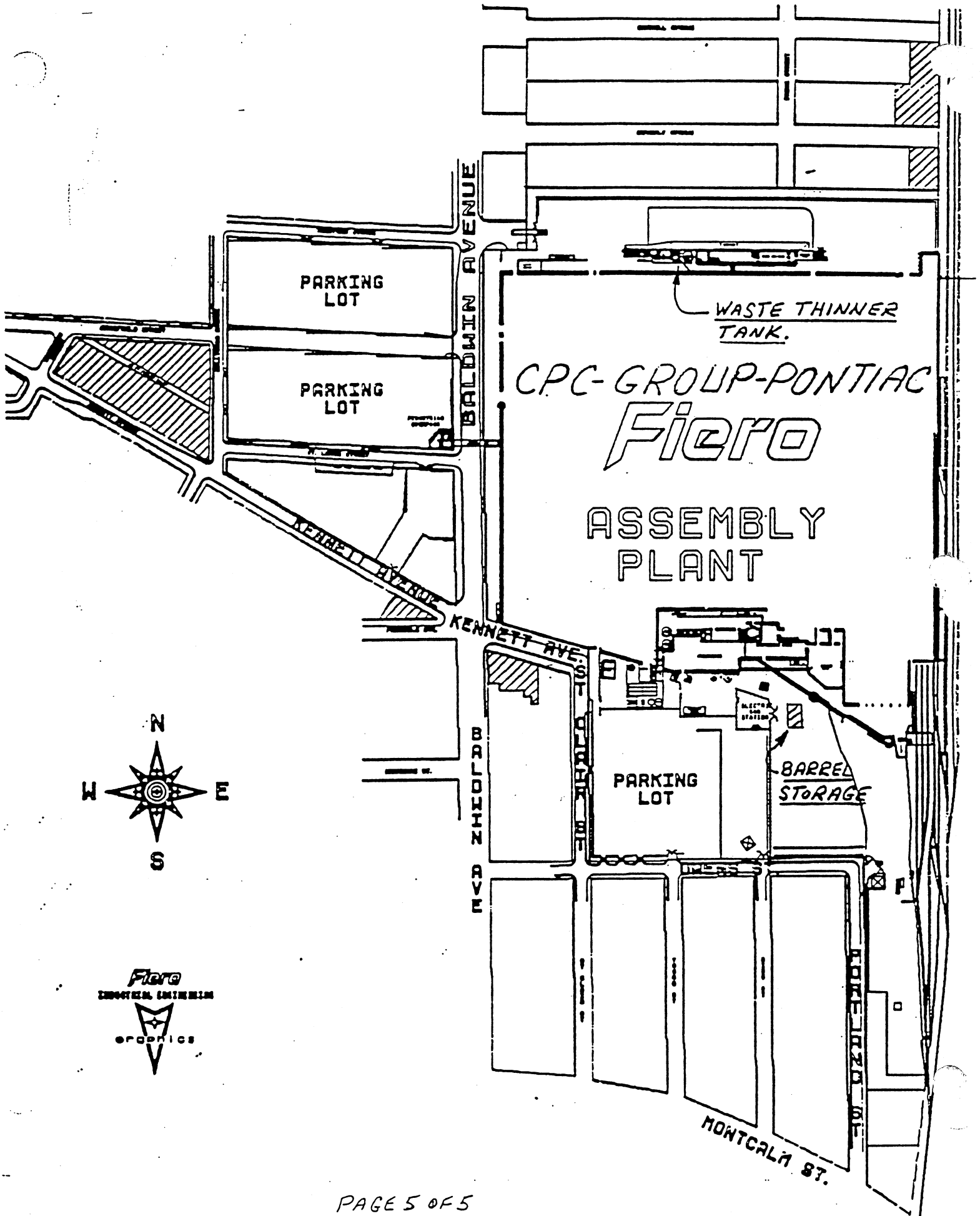
This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
R.L. McKINNON	X Richard L. McKinnon	11-6-87

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED


PARKING LOT
PARKING LOT
BALDWIN AVENUE
WASTE THINNER TANK.
CPC-GROUP-PONTIAC
Fiero
ASSEMBLY PLANT
KENNETT AVENUE
KENNETT AVENUE
BALDWIN AVE
PARKING LOT
BARREL STORAGE
MONTCALM ST.
N
W
E
S
Fiero
ergonics

EPA

GENERAL

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F M I D 0 0 5 3 5 6 9 1 0

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in areas below. Also, if any of the preprinted data is absent (label space to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (except VI-B which must be completed regardless). Complete all Items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

OPTIONAL USE

EPA I.D. NUMBER

FACILITY NAME

MAILING ADDRESS

FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		N.A.	D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing; within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act, and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: CPC PONTIAC FIERO ASSEMBLY PLANT OF GMC

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 G A MOORE PLANT ENGINEER	313 857 2797

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 ONE PONTIAC PLAZA

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 PONTIAC	MI	48058

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 900 BALDWIN

B. COUNTY NAME

OAKLAND

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 PONTIAC	MI	48058	063

CONTINUE ON REVERSE

VII. SIC CODES (4-digit, in order of priority)

A. FIRST: 3711 (specify) MOTOR VEHICLES

B. SECOND: (specify)

C. THIRD: (specify)

D. FOURTH: (specify)

VIII. OPERATOR INFORMATION

A. NAME: CPC PONTIAC FIERO ASSEMBLY

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)
P (specify)

D. PHONE (area code & no.): A 313 857 2797

E. STREET OR P.O. BOX: 900 BALDWIN

F. CITY OR TOWN: PONTIAC

G. STATE: MI

H. ZIP CODE: 48058

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): 9 N MI0027804

D. PSD (Air Emissions from Proposed Sources): 9 P

B. UIC (Underground Injection of Fluids): 9 U N.A.

E. OTHER (specify): 9 (specify)

C. RCRA (Hazardous Wastes): MID005356910

E. OTHER (specify): 9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

PRODUCTION OF AUTOMOBILES

XIII. CERTIFICATION (see instructions)

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME & OFFICIAL TITLE (type or print): PLANT MANAGER

B. SIGNATURE: X Richard E. [illegible]

C. DATE SIGNED: 11-6-87

COMMENTS FOR OFFICIAL USE ONLY

C

EPA Form 3510-1 (6-80) REVERSE

Rec'd 7/5/88.

NATURAL RESOURCES COMMISSION
THOMAS J. ANDERSON
MARLENE J. FLUHARTY
KERRY KAMMER
O. STEWART MYERS
DAVID D. OLSON
RAYMOND POUPORE

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

David F. Hales, Director

June 24, 1988

Mr. Frank Heiman
Plant Engineering
GM C-P-C Fiero Assembly
One Pontiac Plaza
Pontiac, Michigan 48058-3487

Dear Mr. Heiman:

SUBJECT: Closure Plan
GM C-P-C Fiero Assembly
MID 005 356 910

The Michigan Department of Natural Resources has completed the review of the closure plan submitted on May 2, 1988. The plan has been found to be deficient and we request that you modify the plan or submit a new plan by July 28, 1988.

If you have any questions regarding the closure plan review, please contact me.

Sincerely,

Stephen R. Blayer

Stephen R. Blayer
Environmental Engineer
Waste Management Division
517-373-7739

Attachments
cc: Mr. Rich Traub, U.S. EPA-Region V
Ms. Marilyn Sabadaszka, U.S. EPA-Region V
Ms. Daria Devantier, WMD, Northville
Mr. Kenneth Burda, WMD/C&E File
Ms. De Montgomery, WMD

NOTICE OF DEFICIENCY
GM C-P-C Fiero Assembly
Pontiac, Michigan
MID 005 356 910

1. A. Section IV of the closure plan (Decontamination Methods) calls for cleaning the container storage pad only if hazardous waste residues are present. Insufficent detail was provided to describe the method for cleaning the storage pad and tank. MDNR recommends that the container storage pad and storage tank be triple rinsed with steam or an appropriate agent to accomplish decontamination. The plan must specify both the method of cleaning and the proposed disposal method for the rinsate. Rinsate will have to be characterized to a degree necessary for proper disposal. Wash/rinse water contaminated with a listed hazardous waste is considered a hazardous waste by definition. Wash/rinse water contaminated with a characteristic waste is only hazardous if it still exhibits a characteristic.

   B. Rinsate samples must be analyzed as specified in Comment 3.

2. During the closure period, the hazardous wastes will be handled in a temporary accumulation area. This area must be cleaned as specified in Comment 1 when the temporary storage is completed.

3. The closure plan must include SW-846 Third Edition test methods, the parameters to be tested for, and detection limits for the characterization of wash waters (container storage area and tank) and soil testing. Samples must not be composited.

4. The closure documentation section states that the concrete storage pad and storage tank will be considered adequately decontaminated when the parameters to be tested for are non-detectable. MDNR will consider the storage pad and tank to be decontaminated after triple rinsing and all visible waste residues have been removed.

5. Section IV.B. of the closure plan calls for soil testing for the underground tank storage area. The MDNR recommends the following for the cleanup of this area.

   A. Background should be established for site-specific waste constituents or specific chemicals used in various processes or facility operations. These should fall into three general categories: 1) the EP toxic metals using a total metals (dry-weight mg/kg) test procedure for the soil analysis, 2) organic constituents, and 3) other site-specific waste constituents as totals.

   B. A minimum of four samples should be used to establish "background" in soils to account for natural occurrences and variability within each distinctive soil horizon. Background samples must be collected in an "uncontaminated" area. Based on waste type, contaminant mobility, operation practices and

soil type (sand, silty-sand, clay), an estimate of contamination depth should be made and background samples taken at comparable depths. Multiple soil horizons should have "background" established separately (i.e., minimum of four samples per each soil unit). The location of the background samples must be shown on a facility map.

C. A sampling grid system should be established over the tank closure area. The following equation should be used to estimate the grid intervals:

$$GI = \frac{\sqrt{A/\pi}}{2}$$, Where GI = Grid Interval, A = Area

Nine sample stations, at a minimum, are required for the tank storage area.

D. Depth increments would be dependent on subsurface soils. For soil testing within the contaminated area, we would generally recommend using 0.25 to 0.5 foot depth intervals for clays, and 1.0 to 5.0 foot depth intervals for silts-sands.

E. Soil samples must be analyzed as specified in Comment 3.

F. After background has been established, contamination should be determined by comparing background to the soil samples, using a Student's T-test at the 99 percent level of confidence.

6. MDNR recommends the following for an outdoor container storage pad that will remain in use after closure:

A. Visually determine the locations of major low points, cracked and stained areas in the containment area. Take one soil core under the pad in each major low, cracked or stained area.

B. Sample and analyze soil areas immediately adjacent to the pad where contamination is likely. If the samples show no contamination, the area should be considered clean. A sampling and analysis plan should be included in the closure plan. For the area to be considered clean, the samples must show no detectable level of organics and metals must not be statistically greater than background levels. A plan must be included in the closure plan for the removal and disposal of soil and concrete if contamination is found.

C. Soil samples must be analyzed as specified in Comment 3.

7. From the closure cost estimate, it is unclear as to who will do the site cleanup. As stated in 40 CFR 265.142(a)(2), the closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator.

8. The closure cost estimate must include the cost for disposal of the hazardous waste storage tank as specified in 40 CFR 265.142.

9. The closure certification checklist must include all pertinent information in the attached "Clean Closure Certification Checklist" in addition to the items listed in the closure plan checklist.

10. The closure plan must state that GM C-P-C Fiero Assembly will notify Waste Management Division Detroit District staff (313-344-4670) and Lansing Hazardous Waste Permits Unit staff (517-373-2730) at least two working days in advance of soil sampling and soil excavation and removal to enable staff to be present to observe and/or take samples.

1. Manifests (or some type of manifest/waste removal summary) of where and how much waste was shipped.

2 Certification statement is needed by the owner/operator AND an independent registered engineer. All independent registered professional engineer certificates must have an original stamp on at least one copy.

3. Summary of decontamination procedures (pressure wash, stream clean, etc.) and how waste water was disposed.

4. Summary analysis (include conditions of haul roads, time table, soil and groundwater results, weather conditions, runoff controls, equipment decontamination, etc.).

5. Results of all tests used to determine clean closure (chart, tables, lab sheets).

add 6. Statistical comparisons on sampling results compared to background. (This should include full computations on background and statistical analysis).

add 7. Sampling and analysis procedures (specify references).

added 8. Final depth and elevations of excavations of wastes and soils.

add 9. Properly labelled and easily identified sampling grid stations (map); including background stations.

if found add 10. Groundwater data (and statistical evaluation) used to determine if groundwater degradation has occurred (usually four sets of replicate analysis compared to sampling event after closure activities). Monitor well construction details and sampling and analysis procedures may be required if documentation is not in the file.

add 11. Summary of final restoration of excavated area... information on fill material used and/or future land use outline. If clean closure cannot be achieved (e.g. contaminated soils to water table and groundwater results show contamination) this summary item should be used to address the post closure program and/or corrective action.

12. A copy of the approved closure plan and letter of closure approval.

add when received

NATURAL RESOURCES COMMISSION
THOMAS J. ANDERSON
MARLENE J. FLUHARTY
GORDON E. GUYER
KERRY KAMMER
O. STEWART MYERS
DAVID D. OLSON
RAYMOND POUPORE

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
P.O. BOX 30028
LANSING, MI 48909

DAVID F. HALES, Director

October 31, 1988

Gerald A. Moore
Plant Engineering Manager
General Motors, C-P-C Fiero Assembly
One Pontiac Plaza
Pontiac, Michigan 48058-3487

Dear Mr. Moore:

Subject: Closure Plan Approval
MID 005 356 910

The Waste Management Division (WMD) has completed its review of the revised closure plan for the hazardous waste tank and container storage areas submitted on August 29, 1988. WMD hereby approves the closure plan subject to the attached stipulations. In accordance with 40 CFR §265.112(d)(4), the modified closure plan is the approved closure plan.

Closure of RCRA interim status units does not release the facility from its responsibilities under the Hazardous and Solid Waste Amendments of 1984 (HSWA). All interim status facilities are subject to the corrective action requirements.

If you have any questions regarding this approval, please contact Mr. Stephen Blayer at 517-373-7739 or me.

Sincerely,

Alan J. Howard, Chief
Waste Management Division
517-373-9523

Attachments
cc: Mr. Frank Heiman, GM C-P-C Fiero
Ms. Marilyn Sabadaszka, U.S. EPA-Region V
Mr. Rich Traub, U.S. EPA-Region V
Ms. Lynne King, WMD, Detroit
Mr. Ken Burda, WMD/C&E File
Mr. Stephen Blayer, WMD

WASTE MANAGEMENT DIVISION
CLEAN CLOSURE CERTIFICATION CHECKLIST
(Guidance Document)

This checklist was developed to review RCRA clean closures. Due to direct reference to 40 CFR 264 Subpart G by Act 64, Rule 613; Act 64 closures should also be evaluated by this checklist.

Documentation supporting the independent registered professional engineer's certification can be requested under 40 CFR 264.115 and 265.115 (as of October 29, 1986). The owner/operation must submit at least two copies of certification documentation, one for MDNR, and one for the EPA files.

The checklist identifies items recommended to properly evaluate a closure certification. These items are not "absolutes". Other information or substitutions may be provided with technically justify and certify a "clean closure". The WMD Draft "How Clean is Clean" procedure is a recommended reference.

This checklist can be used for land disposal facilities and storage facilities. Several of the items would not be required for a storage facility where testing was minimal. Items 1 thru 5 would be required for all closures. Items 6 thru 11 would be optional for storage facilities, dependent on extent of testing required. Land disposal facilities would require all items listed.

1. Manifests (or some type of manifest/waste removal summary) of where and how much waste was shipped.

2 Certification statement is needed by the owner/operator AND an independent registered engineer. All independent registered professional engineer certificates must have an original stamp on at least one copy.

3. Summary of decontamination procedures (pressure wash, stream clean, etc.) and how waste water was disposed.

4. Summary analysis (include conditions of haul roads, time table, soil and groundwater results, weather conditions, runoff controls, equipment decontamination, etc.).

5. Results of all tests used to determine clean closure (chart, tables, lab sheets).

6. Statistical comparisons on sampling results compared to background. (This should include full computations on background and statistical analysis).

7. Sampling and analysis procedures (specify references).

8. Final depth and elevations of excavations of wastes and soils.

9. Properly labelled and easily identified sampling grid stations (map); including background stations.

10. Groundwater data (and statistical evaluation) used to determine if groundwater degradation has occurred (usually four sets of replicate analysis compared to sampling event after closure activities). Monitor well construction details and sampling and analysis procedures may be required if documentation is not in the file.

11. Summary of final restoration of excavated area... information on fill material used and/or future land use outline. If clean closure cannot be achieved (e.g. contaminated soils to water table and groundwater results show contamination) this summary item should be used to address the post closure program and/or corrective action.

12. A copy of the approved closure plan and letter of closure approval.

CLOSURE PLAN APPROVAL STIPULATIONS
GM C-P-C FIERO ASSEMBLY
PONTIAC, MICHIGAN
MID 005 356 910

1. Additional soil sample must be taken below any crack, stain, or low spot in the concrete pad below the underground tank. This is to ensure that no contamination has seeped below the pad.

2. The following detection limits shall replace detection limits in the closure plan for the following parameters, for washwater analysis:

Waste Description	Detection Limit, ug/l
Arsenic	2.5
Barium	10.0
Selenium	2.5
Silver	0.5

3. SW-846 Third Edition method number 8015 must be used to analyze the waste for MEK and MIBK.

4. GM C-P-C Fiero Assembly shall notify Waste Management Division Detroit District staff (313-344-4670) and Lansing Hazardous Waste Permits Unit staff (517-373-2730) at least two working days in advance of background and soil sampling, storage pad decontamination, excavation of the underground storage tank, and soil and concrete pad removal and disposal (if necessary).

5. The certification submitted to verify that closure has been carried out in accordance with the approved closure plan shall include all pertinent information listed in the attached "Closure Certification Checklist."

Chevrolet · Pontiac · Canada Group
Pontiac Fiero Plant
General Motors Corporation
One Pontiac Plaz
Pontiac, Michigan 48058-348.

April 28, 1988

State of Michigan
Department of Natural Resources
Waste Management Division
Stevens T. Mason Building
P.O. Box 30028
Lansing, MI 48909

SUBJECT: GM - C-P-C FIERO ASSEMBLY
MID005356910
CLOSURE PLAN

Dear Sirs:

After careful examination of the reduced volume of hazardous wastes generated and the announced idling of the Fiero Plant, the facility will not require storage of hazardous wastes on site in excess of 90 days. CPC - Fiero intends to properly close the areas used to store hazardous wastes. Once the areas are properly closed, CPC - Fiero will operate the Hazardous Waste Management Activities at the plant under generator only status. The attached Closure Plan is submitted for your review and approval. If you have any questions, please contact myself. Telephone: (313) 857-2819

Yours Truly,

Frank Heiman

Frank Heiman
Plant Engineering
CPC - Fiero Assembly
One Pontiac Plaza
Pontiac, MI 48058-3487

FH/dh

ATTACHMENTS

SHMID

CLOSURE PLAN FOR

HAZARDOUS WASTE DRUM STORAGE AREA AND

HAZARDOUS WASTE UNDERGROUND TANK

AT THE

GENERAL MOTORS CORPORATION

C.P.C. - FIERO FACILITY

Revised August, 1988

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TABLE I

METHODOLOGY EMPLOYED

IN RCRA ANALYSES

REFERENCE SW-846 3rd EDITION

Parameter	Methodology Water/Solid	Matrix/Soil *Routine Detection Limits - mg/kg	Matrix/Water Routine Detection Limits - mg/l
Total Metals			
Arsenic	7060	0.3	0.005 (0.0025)
Barium	7081	2.5	1.0 (0.5)
Cadmium	7131	0.5	0.01
Chromium	7191	1.0	0.02
Lead	7421	1.5	0.05
Mercury	7471	0.02	0.0005
Selenium	7740	0.3	0.005 (0.0025)
Silver	7761	1.0	0.02 (0.005)
Copper	7211	1.0	0.02
Zinc	7951	1.0	0.02
Nickel	7521	1.0	0.02
Cyanide	9010	1.0	0.02
pH	9040		

* Burmah Technical Services of Pontiac, Michigan use these limits for routine detection.

VOLATILE ORGANIC ANALYSIS - METHODS 8010 AND 8020
BY GAS CHROMATOGRAPHY
Routine Detection Limits

Halogenated, ug/l:	
Bromodichloromethane	10
Bromoform	10
Carbon Tetrochloride	10
Chlorobenzene	10
Choroethane	10
Dibromochloromethane	10
1,2-Dichlorobenzene	10
1,3-Dichlorobenzene	10
1,4-Dichlorobenzene	10
1,1-Dichloroethane	10
1,2-Dichloroethane	10
1,1-Dichloroethene	10
Trans-1,2-Dichloroethene	10
1,2-Dichloropropane	10
Trans-1,3-Dichloropropene	10
Methylene Chloride	10
1,1,2,2-Tetrachloroethane	10
Tetrachloroethene	10
1,1,1-Trichloroethane	10
1,1,2-Trichloroethane	10
Trichloroethene	10
Vinyl Chloride	10

Aromatic, ug/l:	
Benzene	10
Ethyl Benzene	10
Toluene	10
Xylenes	10
Styrene	10
Ketones	10
Acetone	10
MEK } USG MATRIX SAS	10
MIBK }	10
Petroleum Distillates	10

Detection limits listed above are mg/kg for soil and ug/l for water.

Reference: EPA SW-846, "Test Methods for Evaluating Solid Wastes", 3rd Edition.

ANALYSIS OF WASTES ARE ON FILE AND MAY BE OBTAINED UPON REQUEST. CURRENT ANALYSIS IS BEING PERFORMED ON SOME PLANT WASTES.

APPENDIX B

CLEAN CLOSURE CERTIFICATION CHECKLIST

EPA

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

GENERAL

FACILITY NAME

MAILING ADDRESS

FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

I. EPA I.D. NUMBER

F M I D 0 0 5 3 5 6 9 1 0

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (*the area to the left of the label space lists the information that should appear*), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (*except* V-B) but *must be completed regardless*). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (*either existing or proposed*) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		N.A.	D. Is this a proposed facility (*other than those described in A or B above*) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing; within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act, and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: CPC PONTIAC FIERO ASSEMBLY PLANT OF GMC

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 G A MOORE PLANT ENGINEER	313 857 2797

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 ONE PONTIAC PLAZA

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 PONTIAC	MI	48058

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 900 BALDWIN

B. COUNTY NAME

OAKLAND

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 PONTIAC	MI	48058	063

EPA Form

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
3711 (specify) MOTOR VEHICLES	(specify)
C. THIRD	**D. FOURTH**
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME: CPC PONTIAC FIERO ASSEMBLY

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)
P (specify)

D. PHONE (area code & no.): 313 857 279

E. STREET OR P.O. BOX: 900 BALDWIN

F. CITY OR TOWN: PONTIAC

G. STATE: MI

H. ZIP CODE: 48058

IX. INDIAN LAND
Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
N MI0027804	P
B. UIC (Underground Injection of Fluids)	**E. OTHER** (specify)
U N.A.	(specify)
C. RCRA (Hazardous Wastes)	**E. OTHER** (specify)
MID005356910	(specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

PRODUCTION OF AUTOMOBILES

XIII. CERTIFICATION (see instructions)

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
PLANT MANAGER	X Richard C. Wilkinson	11-6-87

COMMENTS FOR OFFICIAL USE ONLY

Rec'd 7/5/88.

NATURAL RESOURCES COMMISSION
THOMAS J. ANDERSON
MARLENE J. FLUHARTY
KERRY KAMMER
O. STEWART MYERS
DAVID D. OLSON
RAYMOND POUPORE

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

David F. Hales, Director

June 24, 1988

Mr. Frank Heiman
Plant Engineering
GM C-P-C Fiero Assembly
One Pontiac Plaza
Pontiac, Michigan 48058-3487

Dear Mr. Heiman:

SUBJECT: Closure Plan
GM C-P-C Fiero Assembly
MID 005 356 910

The Michigan Department of Natural Resources has completed the review of the closure plan submitted on May 2, 1988. The plan has been found to be deficient and we request that you modify the plan or submit a new plan by July 28, 1988.

If you have any questions regarding the closure plan review, please contact me.

Sincerely,

Stephen R. Blayer

Stephen R. Blayer
Environmental Engineer
Waste Management Division
517-373-7739

Attachments
cc: Mr. Rich Traub, U.S. EPA-Region V
Ms. Marilyn Sabadaszka, U.S. EPA-Region V
Ms. Daria Devantier, WMD, Northville
Mr. Kenneth Burda, WMD/C&E File
Ms. De Montgomery, WMD

R1026

NOTICE OF DEFICIENCY
GM C-P-C Fiero Assembly
Pontiac, Michigan
MID 005 356 910

1. A. Section IV of the closure plan (Decontamination Methods) calls for cleaning the container storage pad only if hazardous waste residues are present. Insufficent detail was provided to describe the method for cleaning the storage pad and tank. MDNR recommends that the container storage pad and storage tank be triple rinsed with steam or an appropriate agent to accomplish decontamination. The plan must specify both the method of cleaning and the proposed disposal method for the rinsate. Rinsate will have to be characterized to a degree necessary for proper disposal. Wash/rinse water contaminated with a listed hazardous waste is considered a hazardous waste by definition. Wash/rinse water contaminated with a characteristic waste is only hazardous if it still exhibits a characteristic.

   B. Rinsate samples must be analyzed as specified in Comment 3.

2. During the closure period, the hazardous wastes will be handled in a temporary accumulation area. This area must be cleaned as specified in Comment 1 when the temporary storage is completed.

3. The closure plan must include SW-846 Third Edition test methods, the parameters to be tested for, and detection limits for the characterization of wash waters (container storage area and tank) and soil testing. Samples must not be composited.

4. The closure documentation section states that the concrete storage pad and storage tank will be considered adequately decontaminated when the parameters to be tested for are non-detectable. MDNR will consider the storage pad and tank to be decontaminated after triple rinsing and all visible waste residues have been removed.

5. Section IV.B. of the closure plan calls for soil testing for the underground tank storage area. The MDNR recommends the following for the cleanup of this area.

   A. Background should be established for site-specific waste constituents or specific chemicals used in various processes or facility operations. These should fall into three general categories: 1) the EP toxic metals using a total metals (dry-weight mg/kg) test procedure for the soil analysis, 2) organic constituents, and 3) other site-specific waste constituents as totals.

   B. A minimum of four samples should be used to establish "background" in soils to account for natural occurrences and variability within each distinctive soil horizon. Background samples must be collected in an "uncontaminated" area. Based on waste type, contaminant mobility, operation practices and

soil type (sand, silty-sand, clay), an estimate of contamination depth should be made and background samples taken at comparable depths. Multiple soil horizons should have "background" established separately (i.e., minimum of four samples per each soil unit). The location of the background samples must be shown on a facility map.

C. A sampling grid system should be established over the tank closure area. The following equation should be used to estimate the grid intervals:

$$GI = \frac{\sqrt{A/\pi}}{2}$$, Where GI = Grid Interval, A = Area

Nine sample stations, at a minimum, are required for the tank storage area.

D. Depth increments would be dependent on subsurface soils. For soil testing within the contaminated area, we would generally recommend using 0.25 to 0.5 foot depth intervals for clays, and 1.0 to 5.0 foot depth intervals for silts-sands.

E. Soil samples must be analyzed as specified in Comment 3.

F. After background has been established, contamination should be determined by comparing background to the soil samples, using a Student's T-test at the 99 percent level of confidence.

6. MDNR recommends the following for an outdoor container storage pad that will remain in use after closure:

A. Visually determine the locations of major low points, cracked and stained areas in the containment area. Take one soil core under the pad in each major low, cracked or stained area.

B. Sample and analyze soil areas immediately adjacent to the pad where contamination is likely. If the samples show no contamination, the area should be considered clean. A sampling and analysis plan should be included in the closure plan. For the area to be considered clean, the samples must show no detectable level of organics and metals must not be statistically greater than background levels. A plan must be included in the closure plan for the removal and disposal of soil and concrete if contamination is found.

C. Soil samples must be analyzed as specified in Comment 3.

7. From the closure cost estimate, it is unclear as to who will do the site cleanup. As stated in 40 CFR 265.142(a)(2), the closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator.

8. The closure cost estimate must include the cost for disposal of the hazardous waste storage tank as specified in 40 CFR 265.142.

9. The closure certification checklist must include all pertinent information in the attached "Clean Closure Certification Checklist" in addition to the items listed in the closure plan checklist.

10. The closure plan must state that GM C-P-C Fiero Assembly will notify Waste Management Division Detroit District staff (313-344-4670) and Lansing Hazardous Waste Permits Unit staff (517-373-2730) at least two working days in advance of soil sampling and soil excavation and removal to enable staff to be present to observe and/or take samples.

1. Manifests (or some type of manifest/waste removal summary) of where and how much waste was shipped.

2 Certification statement is needed by the owner/operator AND an independent registered engineer. All independent registered professional engineer certificates must have an original stamp on at least one copy.

3. Summary of decontamination procedures (pressure wash, stream clean, etc.) and how waste water was disposed.

4. Summary analysis (include conditions of haul roads, time table, soil and groundwater results, weather conditions, runoff controls, equipment decontamination, etc.).

5. Results of all tests used to determine clean closure (chart, tables, lab sheets).

add 6. Statistical comparisons on sampling results compared to background. (This should include full computations on background and statistical analysis).

add 7. Sampling and analysis procedures (specify references).

add 8. Final depth and elevations of excavations of wastes and soils.

add 9. Properly labelled and easily identified sampling grid stations (map); including background stations.

10. Groundwater data (and statistical evaluation) used to determine if groundwater degradation has occurred (usually four sets of replicate analysis compared to sampling event after closure activities). Monitor well construction details and sampling and analysis procedures may be required if documentation is not in the file.

if found add

11. Summary of final restoration of excavated area... information on fill material used and/or future land use outline. If clean closure cannot be achieved (e.g. contaminated soils to water table and groundwater results show contamination) this summary item should be used to address the post closure program and/or corrective action.

add

12. A copy of the approved closure plan and letter of closure approval.

add when received

NATURAL RESOURCES COMMISSION
THOMAS J. ANDERSON
MARLENE J. FLUHARTY
GORDON E. GUYER
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DAVID D. OLSON
RAYMOND POUPORE

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
P.O. BOX 30028
LANSING, MI 48909

DAVID F. HALES, Director

October 31, 1988

Gerald A. Moore
Plant Engineering Manager
General Motors, C-P-C Fiero Assembly
One Pontiac Plaza
Pontiac, Michigan 48058-3487

Dear Mr. Moore:

Subject: Closure Plan Approval
MID 005 356 910

The Waste Management Division (WMD) has completed its review of the revised closure plan for the hazardous waste tank and container storage areas submitted on August 29, 1988. WMD hereby approves the closure plan subject to the attached stipulations. In accordance with 40 CFR §265.112(d)(4), the modified closure plan is the approved closure plan.

Closure of RCRA interim status units does not release the facility from its responsibilities under the Hazardous and Solid Waste Amendments of 1984 (HSWA). All interim status facilities are subject to the corrective action requirements.

If you have any questions regarding this approval, please contact Mr. Stephen Blayer at 517-373-7739 or me.

Sincerely,

Alan J. Howard, Chief
Waste Management Division
517-373-9523

Attachments
cc: Mr. Frank Heiman, GM C-P-C Fiero
Ms. Marilyn Sabadaszka, U.S. EPA-Region V
Mr. Rich Traub, U.S. EPA-Region V
Ms. Lynne King, WMD, Detroit
Mr. Ken Burda, WMD/C&E File
Mr. Stephen Blayer, WMD

Appendix C

TECHNA CORPORATION

Knowledge, and the Creativity to Use It

44808 Helm St. Plymouth, MI 48170 (313) 454-1100 Fax. 454-1233

July 18, 1990

Mr. David Rugg
CPC-Fiero
One Pontiac Plaza
Pontiac, Michigan 48058
Mail Code M110

Re: Closure Report
Techna Project No. 207-9007-01

Dear Mr. Rugg:

Please find enclosed the revised report for the Part A closure. This report has been appended per your request of July 16, 1990. The conclusions you have sent have been included in the report. For both the waste storage pad and the underground storage tanks you have concluded that the elevated metal concentrations are not the result of waste management activities. This may or may not be true, it has not been determined where the elevated levels of toxic metals originated. The concentration of these metals are within the levels found in native materials; however, they may pose a health risk if future site usage allows people (esp. children) to come in contact with these soils. The source of the organic contamination at the underground storage tanks has not been determined; however, if it was the result of a product spill, the contaminated soils are hazardous by the mixture rule because the product spill is a listed "U" waste.

The data and information collected for this closure does not conclusively support your conclusions. Your conclusion that the closure of the underground storage tanks is complete is reasonable, and in our opinion no further action is necessary. At the waste storage pad the metal contamination probably is the result of the past usage of the area for coal storage; however, this can not be proved and metal bearing wastes may have been stored on this pad. The real problem is the wide spread organic contamination which could have been the result of waste management activities prior to the construction of the storage pad. If the Michigan Department of Natural Resources will accept the conclusion of this report, I can certify the activities were performed per the approved plan; however, additional remedial investigation will be necessary in the area of the waste storage pad.

If you have any additional questions or concerns regarding this project, please contact us at your convenience.

Respectfully submitted,
TECHNA CORPORATION

Charles F. Koons
Project Manager

cc: file

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I. INTRODUCTION

This Closure Plan describes the activities necessary to properly close the Container and Tank Storage Area at the C.P.C. - Fiero Facility of the General Motors Corporation. The Closure Plan has been developed in accordance with 40 CFR 265.111 - 265.115 and R299.9613 of Michigan Public Act 64.

A. Background

The General Motors, C.P.C. - Fiero Facility submitted a Part A Application to the E.P.A. on November 18, 1980 for storage of hazardous waste at the facility for periods of time greater than 90 days. Since that time, the Part A has been revised to reflect changes in the regulations and to remove inadvertent inclusions. Subsequent to 1984, C.P.C. - Fiero has reduced the volume of hazardous wastes generated and, as a result of the recently announced idling status, the facility does not need to store hazardous wastes on-site in excess of 90 days. C.P.C. - Fiero intends to properly close the areas of the facility used to store hazardous wastes. Once the Drum Storage and Tank area are properly closed, C.P.C. - Fiero will operate the hazardous waste management activities at the facility under generator only status in accordance with 40 CFR Part 262 and Michigan Public Act 64, Part 3 rules. During the closure period, the

hazardous wastes will be handled in an accumulation area at column G1-60. This is an existing inside location, paved and contained, used to store production material. All remaining production material will be removed from this area. This site will be used to store hazardous waste removed from the Outdoor Storage area undergoing closure. The area at column G1-60 will also continue to serve as a future storage area for generated hazardous wastes which will be accumulated for less than 90 days. Storage will be in accordance with Part 262 rules and Act 64, Part 3 rules.

B. PURPOSE and SCOPE

The purpose of this Closure Plan is to provide documentation of compliance with 40 CFR 265.111 (Closure Performance Standard) which states that an owner or operator must close the facility in a manner that ensures the following:

1. Minimizes, the need for further maintenance, and,
2. Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall or waste decomposition products to the ground or surface waters or to the atmosphere.

The scope of this Closure Plan includes the container storage area south of the Salvage Dock and the Underground Hazardous Waste Storage Tank in the North Drive. This Closure Plan describes the activities necessary to remove waste and waste residuals from the regulated units, decontaminate facility equipment and document closure. In addition, the plan provides estimates of the maximum hazardous waste inventory, the estimated closure date and closure schedule. After the Closure Plan is approved, the M.D.N.R. will be notified before formal closure begins.

II. GENERAL FACILITY INFORMATION

A. Facility Name and Location

Facility Name:	General Motors Corporation
Facility Location:	C.P.C - Fiero Facility 900 Baldwin Pontiac, Michigan 48058-3487
Facility Contact:	Frank Heiman
Telephone Number:	(313) 857-2819
EAP ID Number:	MID005356910

B. Facility Description

The G.M. C.P.C. - Fiero Facility is located in the City

of Pontiac approximately two (2) miles West of the I-75 Freeway, North of M-59. The geographical coordinates of the site are 42 Degrees 39' 41" N. Latitude and 83 Degrees 17' 40" W. Longitude. The entire plant occupies approximately 71 acres. Figure 1 is a plan of the facility. Figure 2 is a plan of the Storage Tank and Figure 3 is a plan of the Drum Storage Pad.

C. Waste Characteristics

1. Wastes Managed In The Drum Storage Area

Both solid & liquid hazardous wastes are generated in a number of areas of the plant and are collected in 55-gallon drums. When the drums are nearly full, they are sealed and then taken to the container storage area for storage prior to shipment off-site for treatment and/or disposal. The following hazardous wastes have been stored in the Drum Storage Area prior to off-site treatment, reclamation or disposal:

D001 - Ignitable Hazardous Waste.

F001 - Listed Hazardous Waste.

F003 - Listed Hazardous Waste.

F005 - Listed Hazardous Waste.

As detailed in Figures 1 and 2, the Drum Storage Area which is two (2) years old, is located on the

also in the Paint Mix Building. This waste is then pumped to an Underground Storage Tank. A licensed hazardous waste transporter is used to haul the waste off-site once every 60 - 90 days to a Reclamation Facility. This waste is a spent purge thinner and is classified as F005.

As detailed in Figures 1 and 3, the Underground Tank Storage area is located north of the assembly building. The dimensions of the tank are 20' 6" long and 10' 6" in diameter. The tank has a capacity of 12,000 gallons and is installed three (3) feet below ground level. It is supported below ground with 15" thick reinforced concrete pad and secured to the pad with steel straps and cables. Recent testing and tank integrity assessment revealed that the tank is "TIGHT". Due to the plant idling status, and the necessity for secondary containment required by M.D.N.R., the tank will be removed upon closure.

III. CLOSURE METHOD

A. Drum Storage Area

All hazardous waste in drums will be removed at closure. A licensed hazardous waste transporter will be utilized to haul the waste off-site. Ultimate disposition of the

hazardous wastes will be to licensed hazardous waste treatment or disposal facilities. Any waste generated in the future will be accumulated in the proposed new storage area at Column GI-60.

B. Underground Storage Tank

The hazardous waste within the tank will be vacuumed and removed at closure. A licensed hazardous waste transporter will be utilized to haul the waste off-site to a licensed Reclamation or Disposal Facility.

IV. DECONTAMINATION METHODS

A. Drum Storage Area

The M.D.N.R. Waste Management Division, Detroit District Staff, (313) 344-4670, and Lansing Hazardous Waste Permits Unit Staff, (517) 373-2730, will be notified two (2) working days prior to any cleaning or sampling. The Concrete Pad shall be inspected for major low points, cracks, or stained areas. Any residues present will be cleaned and removed with a high pressure water jet, utilizing an alkaline detergent solution. The wash water will be collected and analysis performed to characterize the water to the degree necessary for disposal (E.P. toxic metals, pH, and volatile organics) as noted in

Section IV-C (Sampling and Analysis Plan). If analysis shows that the wash water is hazardous, it will be vacuumed and hauled to an appropriate licensed treatment facility for stabilization or incineration. If the wash water is non-hazardous, it will be pumped to the main waste treatment plant for processing. The concrete storage pad and dikes will then be triple rinsed with hot water. The rinse water will be collected and analysis performed to determine proper disposal as noted previously for the wash water. The storage pad sump cleaning, decontamination, analysis, and disposal will be conducted in the same procedure as noted previously for the pad.

Following the above activities, soil samples will be taken to verify no contamination below the pad (see Figure 2). A minimum of nine (9) soil samples to a depth of two (2) feet will be taken within the confines of the storage area based on estimated soil conditions. Four (4) soil samples outside the perimeter of the storage pad will be taken in locations shown.

Four (4) non-composited soil samples, at a depth of two (2) feet , which reflect areas considered to be background, will be taken. A statistical analysis of soil sampling results compared to background, using a Gosset Student "T" Test at 99 percent level of

confidence, will be performed. Full computations and documented analyses will be provided with the closure certification report.

If contamination is found, soil and concrete will be removed to a licensed landfill and new soil samples will be obtained and analysis performed.

B. Underground Storage Tank

Any remaining sludge will be vacuumed from within the tank and removed for disposal to a licensed hazardous waste treatment or disposal facility.

The inside surfaces of the tank will have alkaline detergent purging agent applied, followed by a high-pressure water blast and triple rinse with hot water. Liquid residue will be vacuumed, tested and removed for disposal to a licensed treatment facility.

The City of Pontiac Fire Department, M.D.N.R. Waste Management Division, Detroit District Staff, (313) 344-4670, and Lansing Hazardous Waste Permits Unit Staff, (517) 373-2730, will be notified three (3) working days before tank cleaning, soil excavation, and removal begins. After removal, inspection, and disposal, an Environmental consultant will be engaged to take soil samples at the tank site.

Sketch No. 3 shows the location where background and soil samples will be taken. Soil samples will be analyzed for the E.P. toxic metals (total metals dry weight basis) and volatile organics.

Previous excavations at this assembly plant site have revealed the soil to be of a single horizon nature (sand & gravel). After tank removal, non-composited samples will be taken at the sides of the excavation, as the concrete base will prevent downward mobility of potential contaminants. Background non-composited samples will be taken at 14 foot depths below grade elevation. If multiple soil horizons are encountered, separate samples of each will be taken. Statistical analysis on sampling results compared to background, using a Gosset Student "T" Test at 99 percent level of confidence, will include full computations and be documented.

Results of soil analysis will determine further environmental response measures.

C. Sampling And Analysis Plan

Analysis for soil, wash and rinsate, samples will be as noted in Table 1.

The following documentation and procedures will be used for soil and liquid sampling;

1. Dates of sample collection and sample analysis of soils;
2. Depth and soil horizon of each sample collected;
3. Statistical analysis on sampling results compared to background;
4. Manifest/Waste removal summary of where and how much waste was shipped;
5. Summary of decontamination procedures and how waste water was disposed;
6. All sampling and analysis procedures;
7. Final depth and elevations of excavations of wastes and soils;
8. All soil sampling will be performed using a one-inch soil auger. All sampling depths will range as noted on drawings of storage tank and pad sites. The auger will be cleaned between sites by cloth wiping and a deionized water rinse. Prior to sampling the area beneath the concrete, a two-inch diameter hole will be bored through the concrete using a power hammer/drill. All samples will be transported to the laboratory in glass containers with chain of custody forms.

   Reference: EPA SW-846 Test Methods for Evaluating Solid Waste, 3rd. Edition.

V. CLOSURE DOCUMENTATION

A. Drum Storage Area

Documentation of closure of the Drum Storage Area will consist of analysis of pad decontamination, rinsate, and soil samples. The rinsate and soil samples produced during the concrete pad decontamination operation will be analyzed for E.P. Toxic Metals and Volatile Organics. To document decontamination, the concrete pad and all visible waste residues will be removed and triple rinsing will be performed. All sampling and handling procedures will be conducted in accordance with SW-846, 3rd Edition protocol.

B. Underground Storage Tank

Documentation of closure of the Underground Storage Tank will consist of tank decontamination and wash and rinsate analysis. The high-pressure wash and rinse waters produced during the tank decontamination operation will be analyzed for Volatile Organics and E.P. Toxic Metals. Soil samples and analysis will be performed from the excavated area for E.P. toxic metals and volatile organics.

VI. CLOSURE DOCUMENTATION REPORT

Upon completion of on-site activities, C.P.C. - Fiero will submit to the M.D.N.R. a report documenting that closure activities were conducted according to the approved closure plan. The items addressed in the Closure Documentation Report will include all the items identified in the attached "Closure certification Checklist". The documentation report will be signed and certified by an independent, registered, professional engineer. In addition, C.P.C. - Fiero will submit a letter to the M.D.N.R. certifying that closure was conducted according to the approved closure plan. An independent third party will be used to excavate the tank, wash, rinse, clean, remove wastes, decontaminate, perform soil and liquid sampling analysis, and provide documentation. This is outlined in the Clean Closure Certificate Checklist (Appendix B) and outlined in the Closure Cost Estimate.

VII. ESTIMATED CLOSURE SCHEDULE

C.P.C. - Fiero will begin closure activities within 30 days of receiving M.D.N.R. approval of the closure plan. The closure schedule detailed below assumes that closure activities are conducted in the fall, spring or summer. Subsequent to the approval of the M.D.N.R., the following steps will be taken to ensure the proper decontamination and closure of the Drum Storage Area and Underground Tank.

DAY 1	1.	The last volume of drummed hazardous waste are received.
DAY 2	2.	The tank is emptied and Purge Thinner is hauled to a Reclamation Facility.
TO	3.	The drummed hazardous wastes are removed and sent to Petro-Chem Processing, Inc. or another properly
DAY 5		licensed facility for disposal. The maximum amount to be disposed of is 340 - 55 gallon drums.
DAY 6	4.	Tank clean-up begins.
DAY 7	5.	Remaining tank sludge will be vacuumed from within the tank and removed to a licensed disposal facility.
DAY 8	6.	Inside of tank will have an Alkaline Detergent Purging Agent applied followed by high pressure
through		water blast and rinse.
DAY 10	7.	A sample of the tank rinse water will be taken for analysis.
DAY 11	8.	Storage Pad clean-up begins.
DAY 12	9.	All surface accumulation and bulk non-hazardous solids are scraped from the pad.
	10.	The decontamination of the Storage Pad, dike, and ramp begins with the spin jet, water blaster and
through		cleaner.
	11.	The catch basins and sump are decontaminated.
	12.	The Storage Pad, dike, ramps, catch basins and sump are tripled rinsed with hot water.

DAY 22 13. A sample of the Storage Pad rinse water will be taken for analysis.

DAY 23 14. The City of Pontiac and the Michigan D.N.R. will be notified prior to tank removal.

through 15. Tank removed from ground - disassembled and disposed.

16. Soil samples at tank excavation taken for analysis.

DAY 41 17. Pending analytical results of the Soil Analysis, the closure of the tank is completed.

DAY 42 18. Pending analytical results of the rinse water, the Storage Pad is cored for soil sampling and analysis. Background samples will also be taken at this time.

DAY 62 19. Pending analytical results of the Storage Pad Soil Analysis, the closure of the Drum Storage Pad is complete.

DAY 72 20. Closure of the Drum Storage Pad and tank is certified by an independent, registered, professional engineer.

DAY 75 21. The Certification and Documentation Report are sent to the M.D.N.R.

All wash and rinse water will be transferred to the Wastewater Treatment Plant or an off-site treatment facility.

VIII. ESTIMATED CLOSURE COSTS FOR THE DRUM STORAGE AREA AND UNDERGROUND TANK

A. Disposal of 165 - 55 gallon drums of mixed paint and solvents at Petro-Chem Processing, Inc. @ $100/drum.	$18,000.00
B. Transportation of mixed paint and solvents to Petro-Chem, Inc. 2 loads @ $650/load.	$ 1,300.00
C. Disposal of 175 - 55 gallon drums of sealers, adhesives, & urethane at Wayne Disposal. @ $100/drum.	$19,000.00
D. Transportation of sealers, adhesives, & urethane to Wayne Disposal. @ $650/load	$ 1,300.00
E. Decontamination of Drum Storage Pad:	$ 2,850.00
1. 2 Men, 7 Days (114 hrs.) @ $25.00 hr.	
2. Steam Cleaner (includes 1 man), 56 hrs. @ $45.00	
3. Spin Jet (includes 1 man), 56 hrs. @ $45.00	
4. Water Blaster (includes 1 man), 56 hrs. @ $45.00	
5. Sewer Cleaner (includes 1 man(, 56 hrs. @ $45.00	
F. Analysis of Rinsate (Drum Storage Pad).	$ 300.00
G. Analysis of soil and background samples (Drum Storage Pad)	$ 3,000.00

H.	Disposal of 1,000 gallons of Purge Thinner Sludge from Underground Tank at Petro-Chem Processing, Inc. @ $0.58/gallon	$ 580.00
I.	Transportation of Purge Thinner Sludge to Petro-Chem Processing, Inc. 1 load @ $650/load	$ 650.00
J.	Decontamination of Underground Tank:	
	1. Vacuum tank bottom (includes 2 men), 16 hrs. @ $75/hr.	$ 1,200.00
	2. Water Blaster (includes 2 men), 32 hrs. @ $45/hr.	$ 1,440.00
K.	Analysis of Rinsate (tank).	$ 300.00
L.	Tank removal, disposal and backfill.	$25,000.00
M.	Analysis of soil samples (tank).	$ 3,000.00
N.	Certification of closure by an independent, registered professional engineer.	$ 3,000.00
O.	Disposal of wash and rinse water at an approved facility if waste treatment cannot treat it.	$ 2,000.00
P.	Miscellaneous expenses.	$ 5,000.00
	Total Cost Estimate For Closure of Drum Storage Pad and Underground Tank.	$98,000.00

APPENDIX A

ANALYSIS OF WASTES STORED/ACCUMULATED ON THE DRUM STORAGE PAD

AND

UNDERGROUND STORAGE TANK

PART A CLOSURE ACTIVITIES
CPC-FIERO FACILITY
900 BALDWIN AVENUE
PONTIAC, MICHIGAN

UST CLOSURE

Closure Report

Prepared for:

CPC-Fiero
One Pontiac Plaza
Pontiac, Michigan 48058

July 18, 1990

Prepared by:
TECHNA CORPORATION
44808 Helm Street
Plymouth, Michigan 48170
Techna Job No 207-9007-01

PART A CLOSURE ACTIVITIES
CPC-FIERO FACILITY
900 BALDWIN AVENUE
MID 005 356 910
PONTIAC, MICHIGAN 48058

1.0 INTRODUCTION

Techna Corporation was retained by CPC-Fiero to certify the closure of the Hazardous Waste Storage Pad and Waste Purge Thinner Underground Storage Tank (UST) that the facility had operated under the Part A Interim Status. CPC-Fiero submitted the original Part A permit application on November 18, 1980. On November 4, 1987 a revised Part A permit application was submitted to Michigan Department of Natural Resources to permit an upgraded storage pad and close the original storage pad. The original storage pad closure was accepted by the Michigan Department of Natural Resources on February 3, 1988 (see Appendix A).

When CPC-Fiero idled the plant in July of 1988, this eliminated the need to store hazardous waste on site. Additionally, because of the December 22, 1989 deadline for underground storage tank (UST) upgrading, management decided to remove the three (3) product underground storage tanks located adjacent to the Waste Purge Thinner underground storage tank, when the waste thinner tank was removed.

A closure plan to close CPC-Fiero's Drum Storage Pad and Waste Purge Thinner Tank was submitted to the Michigan Department of Natural Resources (MDNR) on April 28, 1988. Final approval of the plan was obtained on October 31, 1988. Closure activities began on May 9, 1989.

This report details the activities conducted according to the approved closure plan.

2.0 PRE ASSESSMENT ACTIVITIES

The site has hazardous waste storage located in two areas of the facility. First is the drum storage pad located south of assembly plant; second is an underground storage tank (UST) north of the manufacturing facility (see Figure 1).

2.1 Waste Management

Prior to commencing with any closure activities, CPC-Fiero had all hazardous wastes removed that were stored on the drum storage pad, and disposed of off-site at approved facilities. This included shipments of unused virgin product that were no longer needed due to the idling of the assembly plant. All remaining non-hazardous containerized wastes stored at the Drum Storage Pad were disposed of off-site at approved facilities. The remaining waste purge thinner was removed from the underground storage tank, manifested, and transported by a licensed hazardous waste transporter to a licensed hazardous waste disposal facility. (Copies of the manifests have been provided in Appendix B)

2.2 Drum Storage Pad Cleaning

On May 9, 1989 CPC-Fiero contracted with Inland Waters to pressure clean the concrete surface of the drum storage pad. The drum storage pad was cleaned with a water/detergent solution using a high pressure spin blaster. After cleaning, all of the areas were triple rinsed with water. All waste liquids from decontamination of the storage pad were initially collected in a tanker and held on-site. (See §2.4)

On May 11, 1989 Inland Waters pressure cleaned the sump that was used to collect the rain water and/or spills from the drum storage pad. Again all waste liquids from decontamination of the sump were initially collected in a tanker and held on-site. (See §2.4) Sludges removed from the sump were placed in 55 gallon drums, analyzed, and disposed of as hazardous waste. (See Appendix C)

On June 7, 1989 the trench and piping used to collect rain water and/or spills from the drum storage pad and the sump used to collect these liquids was pressure cleaned by Inland Waters. Again all waste liquids from decontamination of the trench and piping were initially collected in a tanker and held on-site. (See §2.4)

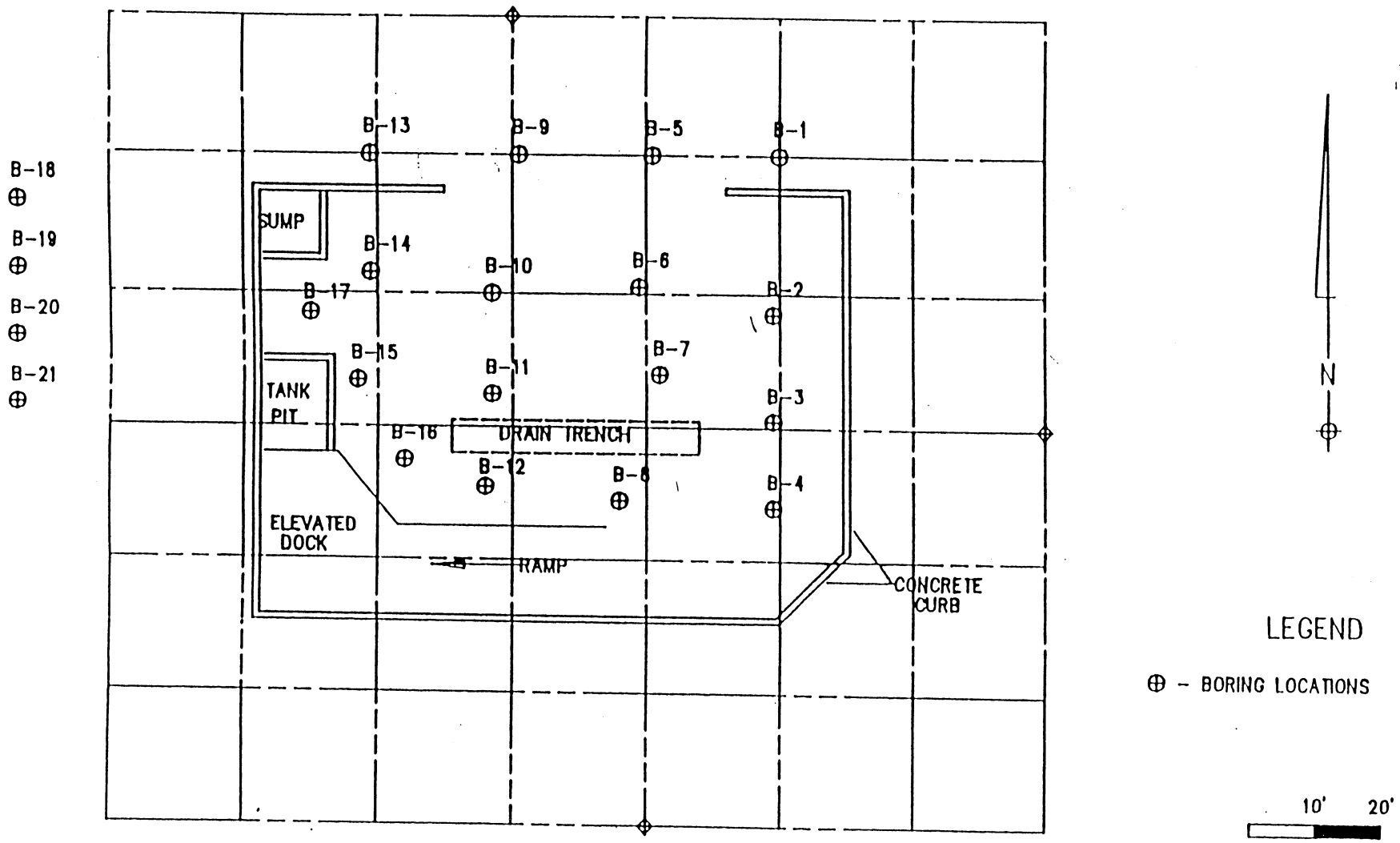

B-18
B-19
B-20
B-21
B-13
B-9
B-5
B-1
SUMP
B-14
B-10
B-6
B-17
B-2
B-15
B-11
B-7
TANK PIT
B-3
B-16
DRAIN TRENCH
B-12
B-8
B-4
ELEVATED DOCK
RAMP
CONCRETE CURB
N
LEGEND
⊕ - BORING LOCATIONS
10'
20'

FIGURE 1

CPC-FIERO SITE PLAN

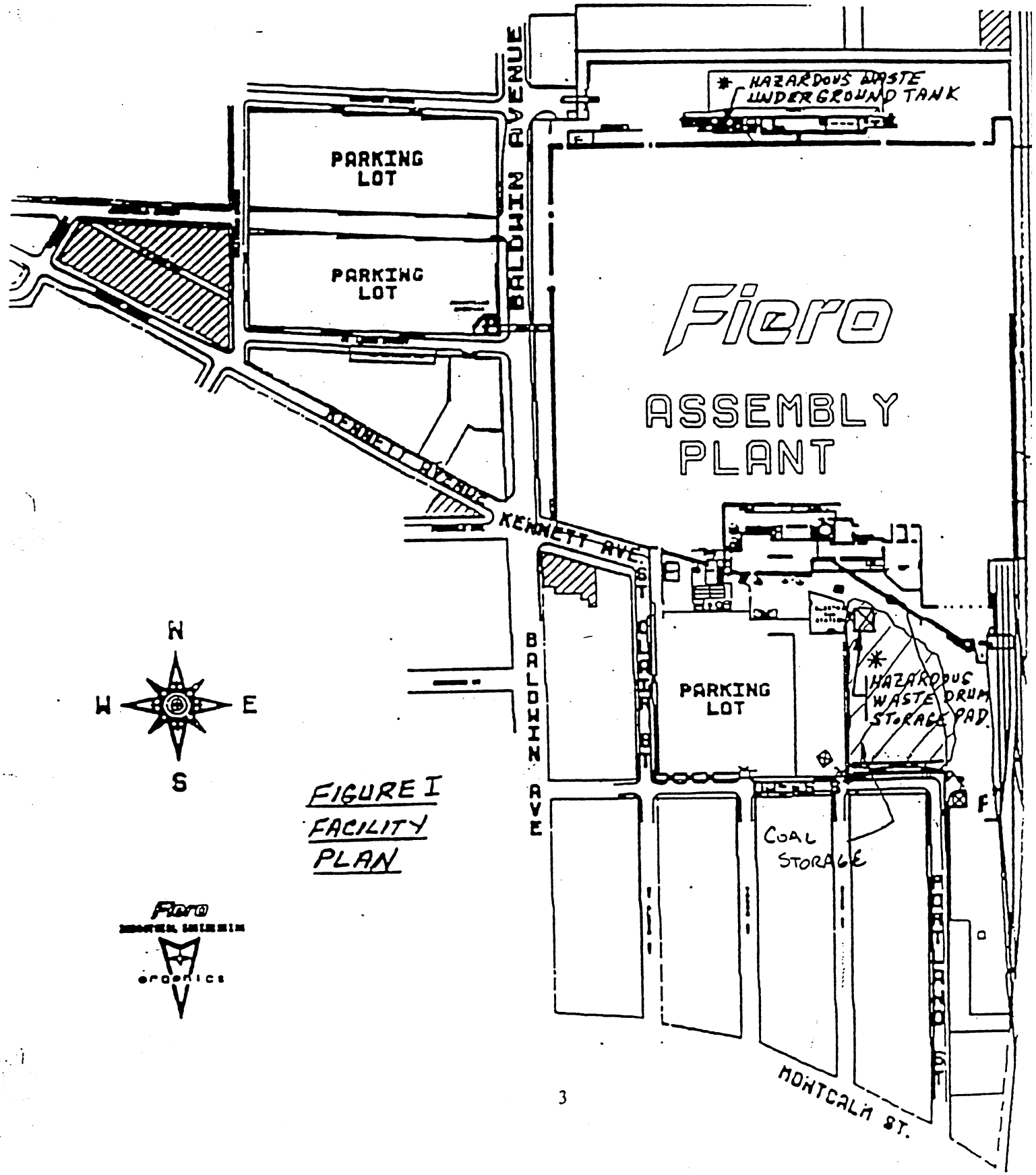


TABLE 2
CPC FIERO
DRUM STORAGE PAD
VOLATILE ORGANICS DETECTED
Concentration in mg/kg (ppm)

1,1-DICHLOROETHANE

Sample Identification	1,1-Di chloroethene	1,1,1-Tri chloroethane	Trichloroethene	Tetrachloroethene	1,1,2,2-Tetra chloroethane
1	ND	4.40	0.32	ND	ND
2	ND	2.10	0.25	ND	ND
3	ND	1.40	ND	ND	ND
4	ND	0.44	0.27	ND	ND
5	ND	0.26	ND	ND	ND
6	ND	0.96	0.20	ND	ND
7	ND	0.70	0.13	ND	ND
8	ND	2.10	0.26	0.13	ND
9	ND	0.59	ND	ND	0.11
10	0.24	7.10	ND	0.08	ND
11	ND	0.72	ND	0.11	ND
12	ND	0.78	ND	ND	ND
13	ND	1.90	ND	ND	ND
14	0.19	11.00	ND	0.13	ND
15	ND	7.00	ND	ND	ND
16	ND	2.40	ND	ND	ND
17	ND	1.10	ND	ND	ND
Background Samples					
18	ND	ND	ND	ND	ND
19	ND	ND	ND	ND	ND
20	ND	ND	ND	ND	ND
21	ND	0.26	ND	ND	ND

Note: 1. ND - Not Detected above Method Detection Limits
2. All other halogenated and aromatic organic compounds were Not Detected above Method Detection Limits

2.3 Underground Storage Tank Cleaning

On May 9, 1989 CPC-Fiero contracted with Inland Waters to also pressure clean the underground storage tank used to store spent thinner. The UST was cleaned with a water/detergent solution using a high pressure blaster. After cleaning, all of the areas were triple rinsed with water. All waste liquids from the decontamination of the UST were initially collected in a tanker and held on-site. (See §2.4)

2.4 Rinsate Management

The rinse materials that were retained on site in the tanker provided by Inland Waters were chemically analyzed to determine if they were compatible with the plant's wastewater treatment facility. From this analysis (see Appendix D), it was determined that these rinse waters were compatible with the wastewater treatment facility operated by CPC-Pontiac of General Motors. The rinsates were discharged into the industrial wastewater system at the CPC-Fiero facility for transport to the CPC-Pontiac wastewater treatment plant prior to treatment and ultimate discharge into the sanitary sewer system.

3.0 UNDERGROUND STORAGE TANK REMOVAL

After the underground storage tank had been decontaminated, CPC-Fiero leased equipment to excavate and remove the underground storage tank used for hazardous waste storage (Waste Purge Thinner) as well as three (3) product storage tanks (xylene, virgin purge thinner, cellosolve acetate). During the excavation of these four (4) underground storage tanks solvent odors were observed in the surface soils. These soils may have become contaminated from spills and/or overfills during tank operations over the past 20 years. The visibly contaminated soils (approximately 60 cubic yards) were retained on site in three (3) roll-off boxes. The boxes were stored inside the facility to ensure that rain water did not mix with the material in the boxes and wash contaminates out of these boxes. On June 16, 1989 soil samples were obtained from these roll-off boxes and were submitted for analysis using US EPA Method 8010/8020. The analysis revealed that low levels of volatile organics were present in the soils (See Appendix E). Because the volatile organics that were detected are included on the land ban list (40 CFR §264), a Toxicity Characteristic Leachate Procedure (TCLP) analysis was performed on the soil to determine if it was suitable for landfill disposal. The results of the TCLP analysis revealed that the organic constituents in the soils are below the level set for land ban. As a precaution, CPC-Fiero disposed of the soils offsite at a licensed hazardous waste disposal facility.

After the surface soils with contamination were removed, further excavation was continued. This soil was stockpiled on the pavement northwest of the former UST location. Soil samples collected from these excavated soils were also submitted for analysis using US EPA Method 8010/8020. The results of this analysis (see Appendix F) indicated that these stockpiled soils had no detectable levels of any constituents found in the wastes managed in the waste purge thinner UST or the products stored in the adjoining UST's. The soils have subsequently been disposed of off-site at the City of Pontiac landfill at 575 Collier Road, Pontiac, Michigan (copies of the shippers for transporting these soils are included in Appendix G).

The Waste Purge Thinner Underground Storage Tank as well as the other UST's only showed signs of surface corrosion. No visible indications (ie pitting, stains, etc.) were found to indicate that the tanks may have leaked. The UST's were cut up on-site by CPC-Fiero personnel and were transported off site as scrap metal to Sam Allen and Son, of Pontiac Michigan. (See Appendix H)

4.0 SAMPLING AND RESULTS

4.1 Drum Storage Pad

In 1986, the original hazardous waste storage pad was closed and certified by the MDNR (see Appendix A). Storage activities were then transferred to an upgraded storage pad that was included as a revision under the Part "A" RCRA permit on November 4, 1987. (See Appendix A) This upgraded storage pad was built on an existing coal storage area. The coal storage pile currently is located to the south of the hazardous waste storage pad. A review of historical aerial photographs shows that the coal pile clearly extended into the area where the upgraded hazardous storage area was constructed (see Figure 1).

When the upgraded hazardous waste storage area was constructed two (2) above ground storage tanks were placed in a separate contained area in the southwest corner of the hazardous waste storage pad. It was originally planned that these tanks would be used for storing waste oil that would be collected in containers throughout the manufacturing facility. After the tanks had been installed management determined that these tanks were not required, and they were never placed into service. These tanks have never contained wastes nor have they been included as part of the permitted facility.

The approved closure plan required the assessment of the drum storage pad. This was accomplished by coring through the concrete slab on approximately a twenty foot grid (borings labelled 1 thru 17, see Figure 2). On August 15, 1989 Techna Corporation contracted McDowell and Associates to bore one foot (1'-0") beneath the slab surface with a four and one-quarter inch (4-1/4") I.D. hollow stem auger. A soil sample was obtained for chemical analysis utilizing a split spoon sampler during the performance of standard penetration tests from a depth of 1'-0" to 2'-6". Prior to drilling and sampling, all equipment was steam cleaned. Split spoon samplers were also rinsed with methanol and de-ionized water to ensure decontamination. Complete soil boring logs have been included in Appendix I.

Collected soil samples were aliquoted into the appropriate, pre-cleaned containers for storage prior to chemical analysis. All sampling, sample handling, packaging, preservation, and storage of samples were conducted according to USEPA protocols (SW-846). Samples for analysis of organic species were stored at 4°C prior to analysis. Four (4) background samples (Nos 18, 19, 20, and 21) were collected west of the drum storage pad near a power distribution center for determining the background levels of the metals.

The samples were submitted for analysis to DiHydro Analytical Services, Wayne Michigan, for analysis. Each of the soil samples from the drum storage pad (Nos 1 thru 17) were analyzed by USEPA Method 8010/8020 to determine the presence and concentration of volatile aromatic organics. The samples from the drum storage pad and the background samples were analyzed by USEPA Methods 7060, 7080, 7130, 7190, 7210, 7420, 7471, 7520, 7740, 7760, and 7950 for the Michigan Act 64 metals, (Total Metals Analysis).

Metals were analyzed to characterize the soils below the pad. As required by the approved closure plan a statistical analysis was preformed on the data collected for the metal concentrations found in the samples comparing them to the background samples. The comparison was performed using the Gossett Student t–Test and mean plus three (3) standard deviations. The results presented in Table 1 indicate several of the samples exceed the background value for the arsenic, barium, cadmium, copper, mercury, nickel, selenium, and zinc.

Because the hazardous waste storage area was constructed on the existing coal pile, the elevated levels of metals observed may be attributed to the coal storage for the past 30 –40 years. Coals from different geographic locations and with different compositions were stored in this area. Metals naturally occur in coal in various concentrations and as reported in the soil boring logs, coal dust–like material was found in the soils underneath the storage pad slab. CPC–Fiero has performed E.P. toxicity analysis on the fly ash that resulted from burning of the coal supply to secure approval for disposal of the fly ash. Copies of these analyses show that these metals are natural occurring and the potential for these metals to leach from the fly ash is low; therefore, it is reasonable to expect the metals found in coal dust which has commingled with the soil under the pad will also have a low leachate potential. Copies of the fly ash EP toxicity and of western coal analyses have been provided in Appendix J.

1,1 DICHLOROETHANE

The results of the chemical analysis indicated that all the soil samples collected from the drum storage pad contained one or more of the following compounds above the method detection limit: 1,1,1–Trichloroethane, Trichloroethene, Tetrachloroethene, 1,1,2,2–Tetrachloroethane 1,1–Dichloroethene. The range of the concentration of the constituents varied from 0.08 ppm to 11.0 ppm. Only the sample #21 collected from the background samples collected west of the drum storage pad had 1,1,1–Trichloroethane (0.26 ppm) above the Method Detection Limit (0.018 ppm). These results have been tabulated on Table 2. Copies of the laboratory data of the samples collected at the hazardous waste storage pad area are included in Appendix K.

TABLE 1
STATISTICAL ANALYSIS
CPC FIERO DRUM STORAGE PAD
concentrations in mg/kg (ppm)

	As	Ba	Cd	Cr	Cu	Pb	Hg[1]	Ni	Se	Ag	Zn
Background Samples											
18	5.7	5	0.8	6.1	14.0	13.0	<0.01	20.0	0.18	0.5	33
19	8.9	58	0.5	11.0	19.0	11.0	<0.01	29.0	<0.20	0.3	42
20	7.0	74	0.4	10.0	17.0	16.0	<0.01	20.0	0.22	0.2	49
21	7.0	28	0.5	11.0	15.0	44.0	<0.01	17.0	0.76	0.2	59
Background Sample Analysis											
Mean (x)	7.15	41.25	0.55	9.52	16.25	21	<0.01	21.5	0.34	0.3	45.75
Standard Deviation (σ)	1.32	30.78	0.17	2.33	2.22	15.47	0.011	5.2	0.28	0.14	11
$x+3\sigma$	11.11	133.59	1.06	16.51	22.91	67.41	0.043	37.10	1.18	0.72	78.75
Typical Michigan Soils[2]											
x	8.42	64.3	1.48	16.1	15.5	13.9	0.80	21.7	0.30	1.55	43.7
Range	0.006-88	6.8-291	0.08-4.9	1.0-5.8	2.1-74	1.9-66	0.009-0.64	2.8-53	0.1-1.1	0.2-4.2	7.7-150
Drum Storage Pad Samples											
1	84.0	51	1.1	3.7	52.0	14.0	0.023	41.0	6.00	0.5	140
2	8.6	72	0.7	6.8	17.0	16.0	<0.01	22.0	1.70	0.5	38
3	9.7	21	0.8	5.7	16.0	16.0	<0.01	20.0	1.20	0.5	46
4	16.0	110	0.3	3.2	22.0	11.0	<0.01	11.0	3.50	0.2	14
5	18.0	190	0.3	4.1	22.0	12.0	0.037	12.0	4.60	0.1	14
6	19.0	220	0.3	3.9	21.0	11.0	0.061	12.0	4.80	<0.1	12
7	24.0	210	0.3	3.9	20.0	11.0	0.057	13.0	4.50	0.3	15
8	19.0	110	0.3	3.2	21.0	9.7	0.057	10.0	4.60	0.1	13

[1] - No background values were measured at greater than Method Detection Limits (MDL); therefore, foreground data was compared to mean (MDL) + 3σ method. Standard deviation of analysis method at the MDL equals 1.1 x MDL (ref: 40CFR §136 Appendix B).

[2] - Reported concentrations of inorganic, fine-grained soils in Michigan

Foreground data compared to background data using Gossett's Student t-Test and mean (x) + 3σ. All samples that exceeded the 99% confidence level for the Student t-Test or x + 3σ have been hi-lited. MDL value was used in calculations for all samples having levels less than MDL.

TABLE 1 (con't)
STATISTICAL ANALYSIS
CPC FIERO DRUM STORAGE PAD
concentrations in mg/kg (ppm)

	As	Ba	Cd	Cr	Cu	Pb	Hg[1]	Ni	Se	Ag	Zn
Background Samples											
18	5.7	5	0.8	6.1	14.0	13.0	<0.01	20.0	0.18	0.5	33
19	8.9	58	0.5	11.0	19.0	11.0	<0.01	29.0	<0.20	0.3	42
20	7.0	74	0.4	10.0	17.0	16.0	<0.01	20.0	0.22	0.2	49
21	7.0	28	0.5	11.0	15.0	44.0	<0.01	17.0	0.76	0.2	59
Background Sample Analysis											
Mean (x)	7.15	41.25	0.55	9.52	16.25	21	<0.01	21.5	0.34	0.3	45.75
Standard Deviation (σ)	1.32	30.78	0.17	2.33	2.22	15.47	0.011	5.2	0.28	0.14	11
$x+3\sigma$	11.11	133.59	1.06	16.51	22.91	67.41	0.043	37.10	1.18	0.72	78.75
Typical Michigan Soils[2]											
x	8.42	64.3	1.48	16.1	15.5	13.9	0.80	21.7	0.30	1.55	43.7
Range	0.006-88	6.8-291	0.08-4.9	1.0-5.8	2.1-74	1.9-66	0.009-0.64	2.8-53	0.1-1.1	0.2-4.2	7.7-150
Drum Storage Pad Samples											
9	20.0	110	0.2	3.0	19.0	9.0	<0.01	9.7	5.10	<0.1	12
10	3.5	59	0.6	2.4	6.7	8.5	0.160	7.9	<0.20	0.3	22
11	3.3	58	0.4	1.7	8.1	6.6	0.033	18.0	0.79	0.2	15
12	14.0	120	0.3	1.9	17.0	8.2	0.093	9.8	3.30	<0.1	10
13	9.0	54	0.5	3.1	12.0	14.0	0.240	11.0	2.10	0.2	18
14	5.3	50	0.6	4.6	15.0	13.0	<0.01	18.0	0.42	0.4	24
15	7.2	54	0.4	2.0	12.0	8.7	<0.01	8.5	1.30	0.1	12
16	9.8	16	0.9	7.3	16.0	15.0	<0.01	24.0	2.00	0.6	40
17	7.8	32	0.7	3.8	12.0	12.0	<0.01	14.0	2.10	0.4	26

[1] - No background values were measured at greater than Method Detection Limits (MDL); therefore, foreground data was compared to mean (MDL) + 3σ method. Standard deviation of analysis method at the MDL equals 1.1 x MDL (ref: 40CFR §136 Appendix B).

[2] - Reported concentrations of inorganic, fine-grained soils in Michigan

Foreground data compared to background data using Gossett's Student t-Test and mean (x) + 3σ. All samples that exceeded the 99% confidence level of the Student t-Test or $x + 3\sigma$ have been hi-lited. MDL was used in calculations for all samples having levels less than MDL.

4.2 Underground Storage Tank

The approved closure plan required the assessment of the waste underground storage tank. This was accomplished by collecting soil samples around the perimeter of the concrete slab located in the bottom of the excavation. No free product or groundwater was encountered; therefore, no water samples were taken. In addition to the clean check samples collected in the excavation, on August 16, 1989 McDowell and Associates advanced four (4) soil borings to establish background concentration of metals (see Figure 3) to a depth of approximately fifteen feet (15'-0") beneath the surface north of the underground storage tank excavation with a four and one-quarter inch (4-1/4") I.D. hollow stem auger. A soil sample was obtained for chemical analysis utilizing a split spoon sampler during the performance of standard penetration tests from a depth of 14'-0" to 15'-6". Prior to drilling and sampling, all equipment was steam cleaned. Split spoon samplers were also rinsed with methanol and de-ionized water to ensure decontamination. Soil boring logs are presented in Appendix L.

Collected soil samples were aliquoted into the appropriate, pre-cleaned containers for storage prior to chemical analysis. All sampling, sample handling, packaging, preservation, and storage of samples were conducted according to USEPA protocols (SW-846). UST samples labeled 1 thru 10 (see Figure 4) were analyzed for organic species and were stored at 4°C prior to analysis. UST samples labeled 1E thru 10E were analyzed for Michigan Act 64 metals. Four (4) background samples (No 11BS, 12BS, 13BS, and 14BS) were collected north of the underground storage tank excavation for determining the background level of the metals.

The samples were submitted for analysis to DiHydro Analytical Services, Wayne Michigan, for analysis. Each of the soil samples labeled No 1 thru 10 were analyzed by USEPA Method 8010/8020 to determine the presence and concentration of volatile aromatic organics. The soil samples labeled 1E through 10E were analyzed for the Michigan Act 64 metals by USEPA Methods 7060, 7080, 7130, 7190, 7210, 7420, 7471, 7520, 7740, 7760, and 7950, (Total Metal Analysis).

As required by the approved closure plan, a statistical analysis was performed on the data collected for the metal concentrations found in the samples comparing them to the background samples. The comparison was performed using the Gossett Student t-Test and mean plus three (3) standard deviations. The results presented in Table 3 indicate several of the samples exceed the background value for the arsenic, cadmium, copper, lead, mercury, nickel, and zinc.

TABLE 3
STATISTICAL ANALYSIS
CPC FIERO UNDERGROUND STORAGE TANK AREA
concentrations in mg/kg (ppm)

	As	Ba	Cd	Cr	Cu	Pb	Hg[1]	Ni	Se[1]	Ag	Zn
Background Samples											
11BS	2.4	6.5	0.5	5.9	5.3	7.4	<0.01	7.6	<0.2	0.3	15
12BS	1.9	20.0	0.5	2.0	5.0	7.1	<0.01	7.5	<0.2	0.4	15
13BS	2.1	30.0	0.6	2.1	4.6	7.7	<0.01	10.0	<0.2	0.4	16
14BS	2.1	8.5	0.5	2.0	4.8	7.7	<0.01	6.7	<0.2	0.6	16
Background Sample Analysis											
Mean (x)	2.13	16.25	0.53	3.0	4.93	7.48	<0.01	7.95	<0.2	0.43	15.5
Standard Deviation (σ)	0.21	10.93	0.05	1.93	0.3	0.29	0.011	1.42	0.22	0.13	0.58
x+3σ	2.76	49.04	0.68	8.79	5.83	8.35	0.043	12.21	0.86	0.80	17.24
Typical Michigan Soils[2]											
x	8.42	64.3	1.48	16.1	15.5	13.9	0.80	21.7	0.30	1.55	43.7
Range	0.006-88	6.8-291	0.08-4.9	1.0-5.8	2.1-74	1.9-66	0.009-0.64	2.8-53	0.1-1.1	0.2-4.2	7.7-150
UST Samples											
1E	3.2	9.8	0.8	4.3	18.0	67.0	<0.01	14.0	<0.2	0.6	39
2E	2.2	11.0	0.7	2.8	7.4	23.0	<0.01	8.8	<0.2	0.6	20
3E	2.7	30.0	1.0	3.3	8.4	12.0	<0.01	10.0	<0.2	0.6	150
4E	3.0	21.0	0.9	3.2	11.0	13.0	0.47	11.0	<0.2	0.7	28
5E	2.7	22.0	0.6	2.8	7.5	16.0	<0.01	8.8	<0.2	0.5	23

[1] - No background values were measured at greater than Method Detection Limits (MDL); therefore, foreground data was compared to mean (MDL) + 3σ method. Standard deviation of analysis method at the MDL equals 1.1 x MDL (ref: 40CFR §136 Appendix B).

[2] - Reported concentrations of inorganic, fine-grained soils in Michigan

Foreground data compared to background data using Gossett's Student t-Test and mean (x) + 3σ. All samples that exceeded the 99% confidence level for the Student t-Test or x + 3σ have been hi-lited. MDL value was used in calculations for all samples having levels less than MDL.

TABLE 3 (con't)
STATISTICAL ANALYSIS
CPC FIERO UNDERGROUND STORAGE TANK AREA
concentrations in mg/kg (ppm)

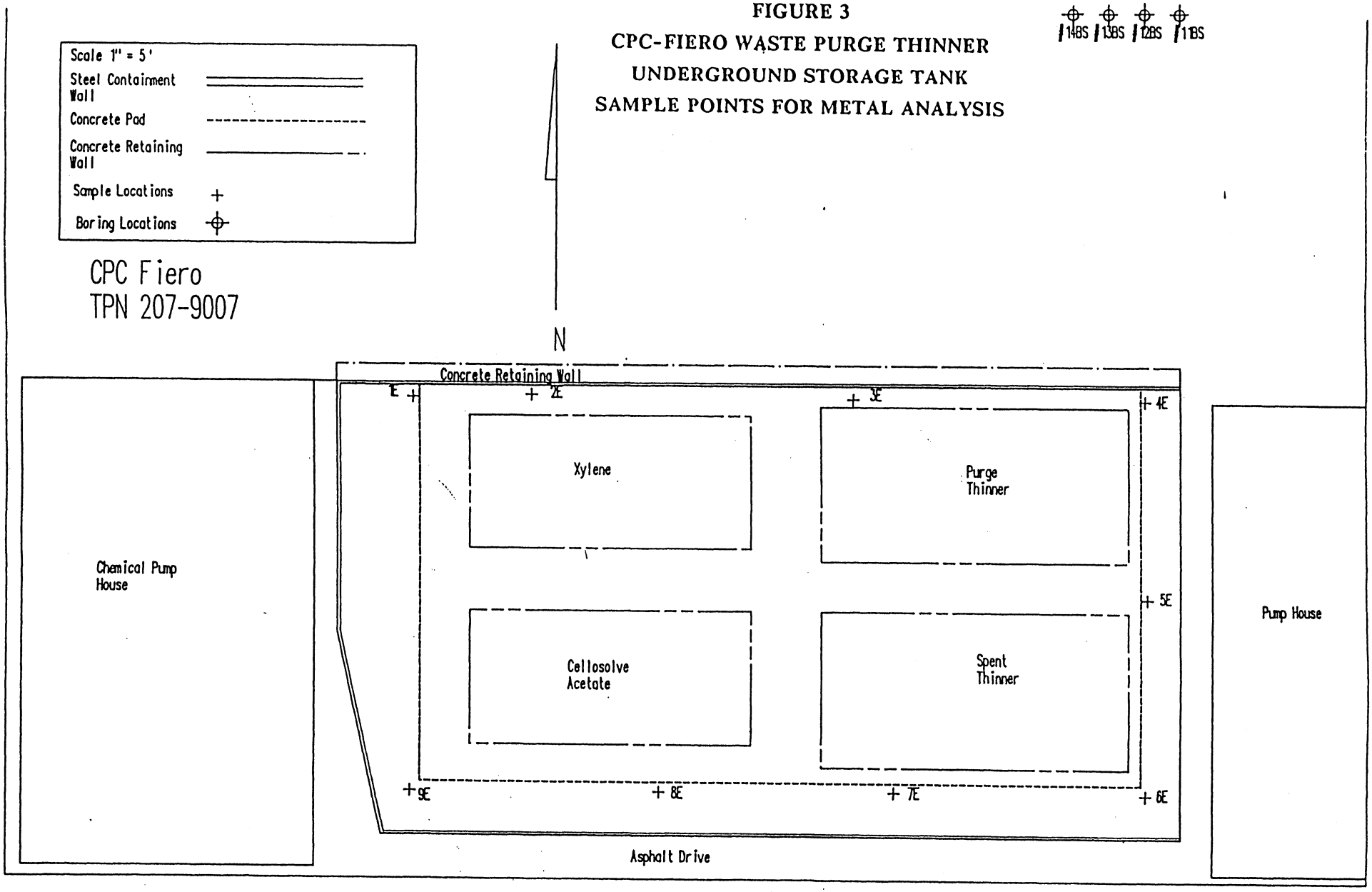
	As	Ba	Cd	Cr	Cu	Pb	Hg[1]	Ni	Se[1]	Ag	Zn
Background Samples											
11BS	2.4	6.5	0.5	5.9	5.3	7.4	<0.01	7.6	<0.2	0.3	15
12BS	1.9	20.0	0.5	2.0	5.0	7.1	<0.01	7.5	<0.2	0.4	15
13BS	2.1	30.0	0.6	2.1	4.6	7.7	<0.01	10.0	<0.2	0.4	16
14BS	2.1	8.5	0.5	2.0	4.8	7.7	<0.01	6.7	<0.2	0.6	16
Background Sample Analysis											
Mean (x)	2.13	16.25	0.53	3.0	4.93	7.48	<0.01	7.95	<0.2	0.43	15.5
Standard Deviation (σ)	0.21	10.93	0.05	1.93	0.3	0.29	0.011	1.42	0.22	0.13	0.58
$x+3\sigma$	2.76	49.04	0.68	8.79	5.83	8.35	0.043	12.21	0.86	0.80	17.24
Typical Michigan Soils[2]											
x	8.42	64.3	1.48	16.1	15.5	13.9	0.80	21.7	0.30	1.55	43.7
Range	0.006-88	6.8-291	0.08-4.9	1.0-5.8	2.1-74	1.9-66	0.009-0.64	2.8-53	0.1-1.1	0.2-4.2	7.7-150
UST Samples											
6E	2.8	18.0	0.7	3.2	8.1	21.0	<0.01	10.0	<0.2	0.5	28
7E	3.1	24.0	0.6	2.6	6.9	13.0	<0.01	8.3	<0.2	0.4	22
8E	3.0	27.0	0.7	3.4	9.4	22.0	<0.01	11.0	<0.2	0.5	59
9E	2.9	44.0	0.7	3.0	8.6	23.0	<0.01	10.0	<0.2	0.5	30
10E	1.7	21.0	0.6	2.8	6.7	22.0	<0.01	8.8	<0.2	0.6	23

[1] - No background values were measured at greater than Method Detection Limits (MDL); therefore, foreground data was compared to mean (MDL) + 3σ method. Standard deviation of analysis method at the MDL equals 1.1 x MDL (ref: 40CFR §136 Appendix B).

[2] - Reported concentrations of inorganic, fine-grained soils in Michigan

Foreground data compared to background data using Gossett's Student t-Test and mean (x) + 3σ. All samples that exceeded the 99% confidence level for the Student t-Test or x + 3σ have been hi-lited. MDL value was used in calculations for all samples having levels less than MDL.

FIGURE 3
CPC-FIERO WASTE PURGE THINNER
UNDERGROUND STORAGE TANK
SAMPLE POINTS FOR METAL ANALYSIS



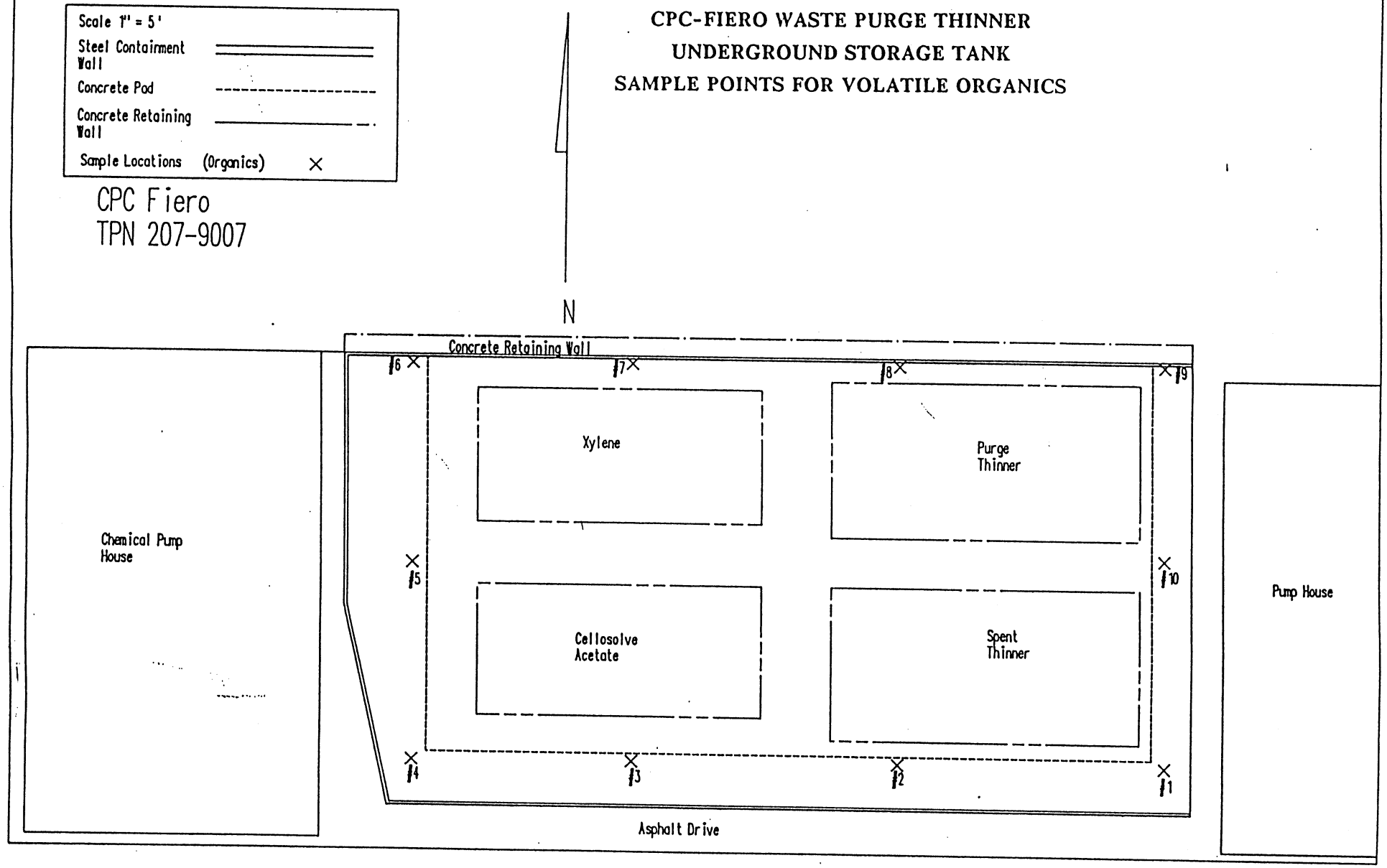
The results of the chemical analysis indicated that soil samples labeled 5 and 9 contained levels of ethylbenzene and xylene above the Method detection limit. Sample 5 had 0.32 ppm ethylbenzene and 0.89 ppm xylene. Sample 9 had 0.16 ppm ethylbenzene and 0.91 ppm xylene. Hard copies of the Laboratory Results are presented in Appendix M.

TABLE 4
CPC FIERO
UNDERGROUND STORAGE TANK PAD
VOLATILE ORGANICS DETECTED
Concentration in mg/kg (ppm)

Sample Identification	Ethyl-benzene	m+p Xylene	o-Xylene
1	ND	ND	ND
2	ND	ND	ND
3	ND	ND	ND
4	ND	ND	ND
5	0.32	0.13	0.76
6	ND	ND	ND
7	ND	ND	ND
8	ND	ND	ND
9	0.16	0.66	0.25
10	ND	ND	ND

Note: 1. ND - Not Detected above Method Detection Limits
2. All other halogenated and aromatic organic compounds were Not Detected above Method Detection Limits

FIGURE 4
CPC-FIERO WASTE PURGE THINNER
UNDERGROUND STORAGE TANK
SAMPLE POINTS FOR VOLATILE ORGANICS



5.0 CONCLUSIONS

5.1 Drum Storage Pad

The assessment conducted for the closure of the hazardous waste storage pad at the CPC-Fiero facility has identified elevated levels of some metal constituents. Although the metals are above the background range, CPC and TECHNA believe the metals are the result of prior coal handling practices, and not related to drum pad activities. The area where the pad was located was at one time part of the coal storage area for the plant's powerhouse which has been in operation well over 30 years. Samples taken just below the pad indicate the soil type as being brown sand and gravel fill with coal fines. The plant has E.P. Toxicity analyses of the plant's boiler flyash which show traces of the metals.

Additionally, the metals that show elevated levels compared to background levels fall within the range of metals that are typical to native Michigan soil. Being typical of Michigan soils, the metals do not pose a threat to human health or the environment. CPC-Fiero and TECHNA believe there has been no soil contamination by metals at the drum pad site that was related to the operation of the drum pad, and propose no further investigation for the metals at the drum pad site.

The analyses performed indicates the presence of some organic compounds in the sub-surface soil. However, the results for all but one of these analyses were below the detection limit for organics specified in the approved closure plan. As a precaution, further investigation of this area will be conducted.

5.2 Waste Underground Storage Tank

The analytical data generated for the UST closure site and statistical analyses of these data indicated elevated levels of metals when compared to the background samples. CPC-Fiero, and TECHNA believe the results do not indicate contamination from the waste tank. It is a General Motors policy to backfill an excavated area with clean sand to obtain the proper compaction needed to pour concrete at the ground level. The soil that is used for the backfilling is not from the site, but rather it is purchased from an outside source. Since the fill soils were from another location, there would be not correlation between the background sample and the UST site. CPC-Fiero and TECHNA compared the analysis from the UST site with the ranges of metals naturally occurring in typical

Michigan soils. The analysis indicates that the levels of metals in the UST site sample fall into the range of typical Michigan soils. Being typical of Michigan soils, the metals do not pose a threat to human health or the environment. Based on this information, and the fact that the hazardous waste storage tank contained a solvent waste stream, not a listed metal waste stream, CPC-Fiero and TECHNA conclude that there has been no metals contamination of the soil from the hazardous waste tank.

Based on this information no further action is proposed to address the metals at the UST site. Analysis from two out of ten samples from the UST site detected low levels of organic constituents. However, the levels were considerably lower than those specified in the approved closure plan. The approved closure plan stated that all sampling and handling procedures will be conducted in accordance with SW-846, 3rd Edition protocol. The method detection limits listed in the approved closure plan for volatile organics in soil are 10 mg/kg. The levels of organic in the soil at the UST site were less than 1 mg/kg. This indicates that the levels at the site are well below those approved in the closure plan for the CPC-Fiero site.

In addition to the waste purge thinner tank, the UST site contained three product tanks. One of these three tanks, which was located in the northwest corner of the tankfarm was a product storage tank containing a solvent from Grow Chemical. The material safety data sheet (Appendix N) indicates the chemical formula for this product is:

meta xylene - 40%
ortho xylene - 20%
para xylene - 20%
ethyl benzene - 20%

The organics that were detected in the soil around the concrete slab were:

meta xylene
ortho xylene
para xylene
ethyl benzene

The chemical analyses of the hazardous waste purge thinner indicate that there are several different organic constituents in addition to those listed above (Appendix O), many of which have similar vapor pressures and solubilities in water. If hazardous waste had been either spilled, or leaked

NATURAL RESOURCES COMMISSION
THOMAS J. ANDERSON
MARLENE J. FLUHARTY
KERRY KAMMER
O. STEWART MYERS
DAVID D. OLSON
RAYMOND POUPORE

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

GORDON E. GUYER, Director

February 3, 1988

Mr. Gerald A. Moore, Superintendent
Plant Engineering
GM C-P-C Fiero Assembly
One Pontiac Plaza
Pontiac, Michigan 48053

Dear Mr. Moore:

SUBJECT: GM C-P-C Fiero Assembly
MID 005 356 910
Closure Plan Approval/Closure Certification

Michigan Department of Natural Resources (MDNR) has reviewed the closure plan and closure certification most recently submitted on November 17, 1987 and has found them to be acceptable.

As a result, MDNR is approving the closure plan and closure certification and releasing GM C-P-C Fiero Assembly from the financial assurance requirements for closure under 40 CFR 265.143(h) for the container storage area that was closed. However, the closure cost estimate must be revised and financial assurance provided for the container storage area now being used.

Approval of closure of a Resource Conservation and Recovery Act (RCRA) interim status unit does not release the facility from its responsibilities under the Hazardous and Solid Waste Amendment of 1984 (HSWA). Closure does not terminate interim status and, therefore, the company may be responsible for corrective action if U.S. EPA or MDNR determines that a release of hazardous waste or hazardous waste constituents is taking or has taken place from a solid waste management unit as defined under HSWA.

The closure of this storage pad was unique in that most of the closure was carried out before a plan was submitted to MDNR. This is not an acceptable practice. In the future, GM C-P-C Fiero must submit any construction or closure plans related to the hazardous waste storage area for MDNR approval before construction may begin.

If you have any questions, please contact Mr. Stephen Blayer at 517-373-7739 or me.

Sincerely,

Alan J. Howard, Chief
Waste Management Division
517-373-9523

cc: Mr. Rich Traub, U.S. EPA - Region V
Ms. Marilyn Sabadaszka, U.S. EPA - Region V
Mr. Ken Burda, WMD/C&E File
Ms. Becky Kocsis, WMD
Ms. Lynne King, WMD, Detroit
Mr. Stephen Blayer, WMD

Chevrolet-Pontiac-Canada Group
General Motors Corporation
Pontiac Manufacturing Operations
One Pontiac Plaza
Pontiac, Michigan 48340-2952

January 20, 1993

Ms. Joanne Pritchard
NAO Facilities & Environmental Engineering
General Motors Corporation
30001 Van Dyke Avenue
Warren, Michigan 48090-9020
Room 258-25

Dear Ms. Pritchard:

The following document contains a list of discrepancies that have been found in the PRC Environmental Management, Inc., 233 North Michigan Avenue, Suite 1621, Chicago, IL, 60601, Preliminary Assessment/Visual Site Inspection, Work Assignment No. R05032.

The discrepancies are as follows:

1. Section 2.3, Figure 2, Page 7, as referenced by Appendix I the positioning of the Solid Waste Management Units are not correctly shown on the PRC document.

   SWMU 1 - Correct.

   SWMU 2 - Correct.

   SWMU 3 - The correct positioning of the "Container Storage Area" is directly East of the Electrical Substation. (Appendix II, GM-CPC-Pontiac Photo #7)

   SWMU 4 - Correct.

   SWMU 5 - The correct positioning of the "Former Wastewater Treatment Plant" is approximately 100 yards North of Owens Street. (Appendix II, GM-CPC-Pontiac Photo #14)

   SWMU 6 - Correct.

   SWMU 7 - The correct positioning of the "Wastewater Collection Sump" is approximately 50 yards West in the basement of the New Powerhouse. (Appendix I)

   SWMU 8 - Correct.

   SWMU 9 - We are unable to substantiate the existence of this SWMU as there is no reference to it in our conversations or photographic record of the PA/VSI completed on February 1, 1992 by PRC Environmental Management Inc.

SWMU 10- The correct positioning of the "High Pressure Fly Ash Silo" is in the New Powerhouse approximately 200 yards West. (Appendix I)

SWMU 11- The correct positioning of the "Low Pressure Fly Ash Silo" is approximately 100 yards West in the Old Powerhouse. (Appendix I)

2. Section 2.4, Paragraph 2, as follows:

"The facility had a release from Purge Thinner Underground Storage Tank (SWMU 6). The release was first discovered during the excavation of this unit (GMC, 1990). This unit was excavated in conjunction with three product underground storage tanks that stored xylene, virgin purge thinner, and cellosolve acetate."

GM Response as follows:

It is our contention that the "release" is from the overfilling of the Xylene Virgin Product Underground Storage Tank and not the Purge Thinner Underground Storage Tank leaking. . As evidenced by the document known as "Part A Closure Activities, CPC-Pontiac Facility, 900 Baldwin Avenue, Pontiac, Michigan", prepared by Techna Corporation, 44808 Helm Street, Plymouth, Michigan 48170, Techna Job No. 207-9007-01, Dated July 18, 1990, (Appendix III). Section 5.2, Pages 17 thru 19 of the above mentioned document clearly support our position that the release was caused by the spillage or over filling of a product storage tank. Also, in support of this position the two appendices mentioned in the above document are attached as (Appendix IV).

3. Section 2.4, Paragraph 3, as follows:

"The facility had a release from Container Storage Area (SWMU 3) (GMC, 1990). The facility cored the concrete pad of this unit in August 1989 as part of an approved closure plan. The pad was cored at 20-foot intervals to a depth of 2.6 feet below the pad. Several soil samples exceeded background levels for arsenic, barium, cadmium, mercury, nickel, selenium, and zinc. The highest concentrations measured were 84 ppm for arsenic, 220 ppm for barium, 52 ppm for copper, and 140 ppm for zinc. Several organic compounds were also detected above detection limits, including 1,1,1-trichloroethane, 1,1,2,2-tetrachloroethane, and 1,1-dichloroethane. The highest concentration measured was 11 ppm for 1,1,1-trichloroethane. The facility submitted a revised closure plan summarizing activities on September 12, 1990 (GM, 1990). GMC is awaiting closure approval."

GM Response as follows:

Our position is that the metals contamination found under the Container Storage Area (SWMU 3)(GMC, 1990) were the result of prior coal handling practices. As evidenced by the document known as "Part A Closure Activities, CPC-Pontiac Facility, 900 Baldwin Avenue, Pontiac, Michigan", prepared by Techna Corporation, 44808 Helm Street, Plymouth, Michigan 48170, Techna Job No. 207-9007-01, Dated July 18, 1990, (Appendix III).

on the ground from the hazardous waste tank, some of its other organic constituents would be present along with the xylenes and ethyl benzene that were detected. A further fact indicating that the low level of organics were not from the waste tank is the absence of any contamination in the soil at the sampling points next to the hazardous waste storage tank. Based on this information, CPC-Fiero and TECHNA believe that the organic constituents found in the soil did not come from the hazardous waste tank or fill lines. The organics that were detected in the soil were likely the result of spillage or over filling of a product storage tank.

Based on the foregoing information CPC-Fiero and TECHNA believe no soil contamination exists from the hazardous waste storage tank, and TECHNA certifies the UST site at the CPC-Fiero Assembly plant meets the requirements set forth in the approved closure plan for Clean Closure of a hazardous waste site.

6.0 CERTIFICATION OF CLOSURE ACTIVITIES

Techna Corporation certify's that the information provided in this document is to the best of our knowledge true and complete, and that the activities completed to date have been in accordance with the Closure Plan dated August 1988, prepared by CPC-Fiero and approved with stipulation by the Michigan Department of Natural Resources October 31, 1988.

Certified by: Chas F Koons

TECHNA CORPORATION
Charles F Koons P.E.
Michigan Registration No. 28225

Section 5.1, Page 17 of the above mentioned document supports the position that the metals soil contamination is not related to the Container Storage Area activity.

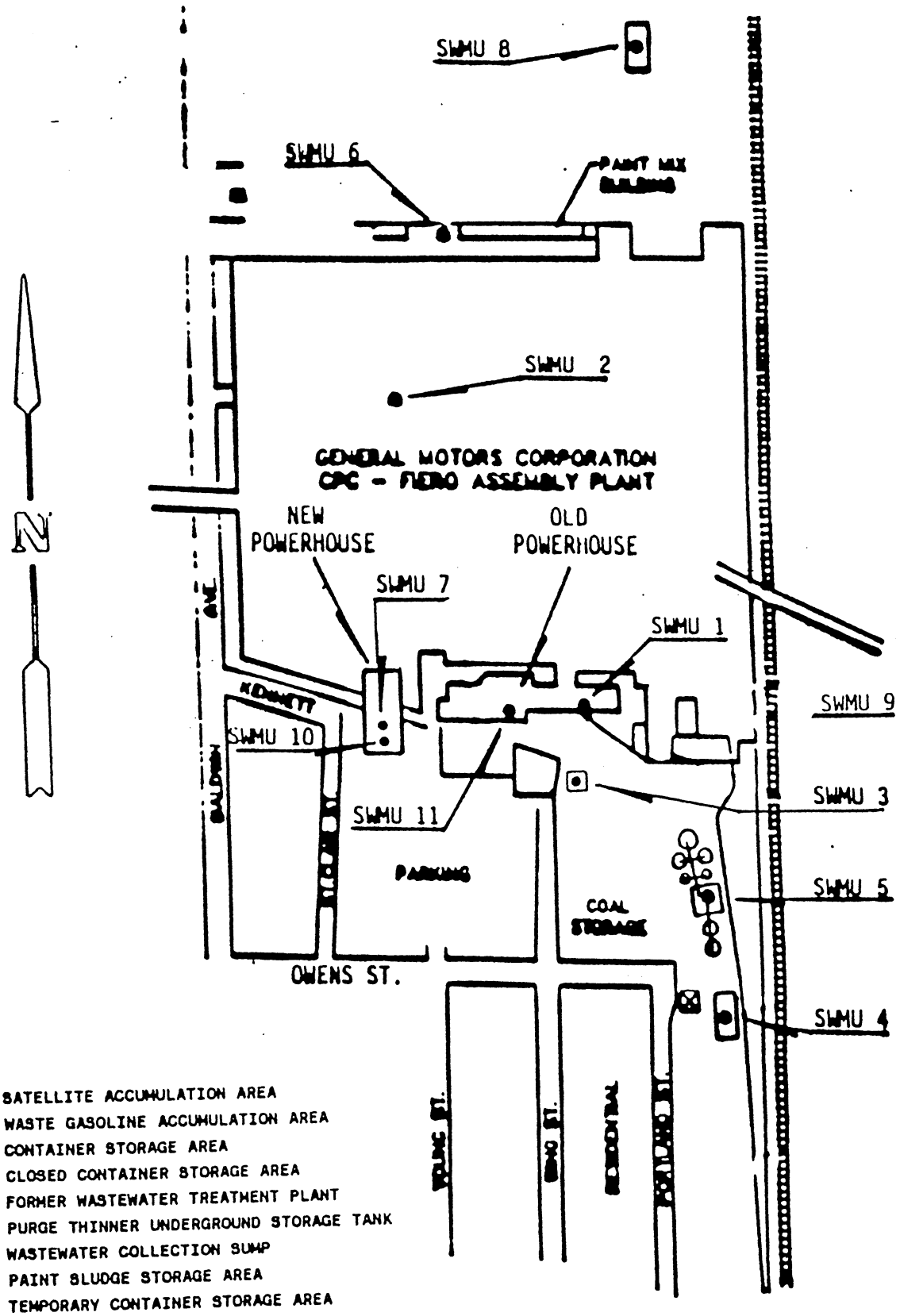
If you have any questions, or require further information, please contact the undersigned at 8-237-2287.

Sincerely:

Dallas F. Geisler
Sr. Environmental Engineer
CPC-Pontiac Manufacturing Operations
One Pontiac Plaza
Pontiac, Michigan 48340-2952
Mail Code 4915

c: File

APPENDIX I



LEGEND

SWMU	1	SATELLITE ACCUMULATION AREA
SWMU	2	WASTE GASOLINE ACCUMULATION AREA
SWMU	3	CONTAINER STORAGE AREA
SWMU	4	CLOSED CONTAINER STORAGE AREA
SWMU	5	FORMER WASTEWATER TREATMENT PLANT
SWMU	6	PURGE THINNER UNDERGROUND STORAGE TANK
SWMU	7	WASTEWATER COLLECTION SUMP
SWMU	8	PAINT SLUDGE STORAGE AREA
SWMU	9	TEMPORARY CONTAINER STORAGE AREA
SWMU	10	HIGH PRESSURE FLY ASH SILO
SWMU	11	LOW PRESSURE FLY ASH SILOS

GM-CPC-Fiero Preliminary Assessment / Visual Site Investigation

Photo Log

Photo #	Location	Description
1	Powerhouse Basement	Powerhouse floor sump pumping water to CPC-Pontiac Waste Water Pre-treatment Plant. Photo straight down looking north.
2	Powerhouse Basement	Hazardous Waste Accumulation Drum, located at column E11. Facing North West.
3	Powerhouse Roof	High Pressure Boiler Stack. Facing South East.
4	Powerhouse Roof	Low Pressure silo for storage of low pressure fly ash. Facing East.
5	Powerhouse Roof	Low Pressure Boiler Stacks. Facing East.
6	South Lot	New Drum Storage Pad. Facing South West. Photo covers east end to tanks on west end.
7	South Lot	New Drum Storage Pad. Looking down grating, including building. Also shows all corings filled with cement. Facing West.
8	South Lot	Old Drum Storage Pad Area. Facing east toward liquid storage building on main plant.
9	South Lot	Old Waste Water Treatment Plant Area. Facing East. Taken from just North of the truck scales.
10	Truck Repair	Hazardous Waste Accumulation Drum. Facing West.
11	North Drive	Underground Storage Tank Area. Facing North West from drive.
12	North Yard	Paint Sludge Accumulation Building. Wide angle facing North.
13	North Yard	Paint Sludge trench system leading into a blind sump. Facing North West.