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Rev. 07/10/02

ALLEGAN SERVICE CENTER
VCCappell, RGNeumann

INFORMATION REQUESTS

1. Identify all persons consulted in the preparation of your responses to these Information Requests.

Anthony M. Aurino,	Environmental Compliance Consultant, Business Services Dept
Verne C. Cappell:	Senior Portfolio Mgr, Business Services Dept
Stacy M. Lahr	Technical Assistant, Business Services Dept
Robert G Neumann PE	Senior Engineer, Environmental & Technical Services Dept
Patrick S. Zombo	Senior Environmental Planner, Environmental & Technical Services Dept

2. Identify all documents consulted, examined, or referred to in the preparation of your responses to these Information Requests, and provide copies of all such documents. If, in lieu of or along with a textual response to any specific Request, you refer to a document that you believe contains information responsive to that Request, you must identify the specific location (page number, paragraph number) in the document where responsive information can be located.

   See General Objections
   In addition to other documents noted elsewhere in the Company's response, the following are attached.
   Exhibit 1: May 13, 1992 Former Used Oil UST Soil Boring Investigation
   Exhibit 2: December 1995 Closure Report (Former 5,000 gallon gasoline UST)
   Exhibit 2A: January 30, 1996 MDEQ closure concurrence
   Exhibit 3: June 2003 Progress Report First Quarter 2003 (Former 10,000 gallon gasoline UST)
   Exhibit 4: 1969 Site Plan

3. If you have reason to believe that there may be any person able to provide a more detailed or complete response to any Information Request, or who may be able to provide additional responsive documents, identify any and all such persons.

   None Known

K00004080

4. Identify and generally describe each Consumers Energy facility at or near the Site, as that term is define in Attachment 3 (Definitions). For each Consumers Energy facility, provide:

   a. the address of the facility;

      Consumers Energy Company
      Allegan Service Center
      670 Grand (M-222)
      Allegan, MI 49010

   b. past/present EPA ID numbers, RCRA numbers and NPDES numbers for the facility; and

      RCRA ID number MID 981783145

   c. the current owner of the facility

      Consumers Energy Company
      One Energy Plaza
      Jackson, Michigan 49201

5. Identify all prior owners and operators of each facility and their dates of ownership and/or operation.

   Unknown

6. Provide copies of all local, state, and federal environmental permits ever granted for each facility or any part thereof (e.g., RCRA permits, NPDES permits, etc).

   None known

7. For each facility, identify and describe all types of monitoring reports, monitoring data, and documentation sent to or received by federal or state regulatory authorities regarding any materials containing hazardous substances used, generated, stored, treated or disposed at or from the facility.

   See Allegan Service Center Exhibits 1 through 3A regarding former underground storage tank releases and remedial actions.

   See EPCRA Tier II reports at pages K3353-K3382

   See RCRA Bienneial reports at pages K3587-3708
   See Waste manifest lists and documents at K3792-K3795
   K 3874-K3876
   K3889-K3890

K00004081

8. Identify and describe the nature of all past and current operations and production processes at each facility. Identify, if available, all current and previous SIC codes associated with each facility.

This is an office facility with a vehicle equipment repair area. The primary functions are utility bill processing and collection, utility engineering design services, customer contact and information services, utility crew working and reporting field headquarters and general administrative functions, such as accounting, pay roll and mail services. An equipment/vehicle repair function is at the facility to perform routine maintenance of utility service vehicles. SIC Code 4911

9. Identify each product produced at the facility. Further identify the mass quantity of each product produced on an annual basis.

The Allegan Service Center is not a production facility.

10. Identify and describe any and all activities or efforts to take production facilities out of operation, and include the dates of each such activity or effort.

None

11. For each facility, identify and provide any data, estimates, analyses or other information regarding any material used, treated, stored or disposed that contained or may have contained PCBs. To the extent available, provide all such data, estimates, analyses or other information on an annual basis.

In 1985, the facility sent 300 gallons of waste PCB oil to Recovery Specialists for disposal (see pages K3889-K3893) The oil was less than 1,000 ppm of PCB.

The following additional shipments of PCB or possible PCB waste were sent to the Company's Central Storage Facility in Jackson, Michigan, where it was consolidated with other wastes and then forwarded for disposal. (See pages K3792-K3795)

1990	453 lbs of light ballasts, which may have contained PCB. The waste was forwarded to Rollins Texas for disposal
1991	one capacitor, which may have contained PCB. The waste was forwarded to Rollins Texas for disposal
1998	3 shipments of PCB-contaminated solids, in amounts of 444 lbs, 792 lbs, and 790 lbs. These came from a spill elsewhere in the service center's service territory. The waste was forwarded to Wayne Disposal

In addition, the facility manages various electrical equipment, which sometimes may contain PCB. The number of pieces is small, but varies from time to time.

K00004082

12. For each facility, identify any data, estimates, analyses or other information regarding the concentration of PCBs in any material used, treated, stored or disposed there. To the extent available, provide all such data, estimates, analyses or other information on an annual basis.

See Response to Question 11.

13. To the extent not already provided in response to Request #11, provide the following information:

a. the type and quantity, on an annual basis, of any oils or other lubricants used, treated, stored or disposed at each facility that are known or suspected to have contained PCBs;

Unknown. The facility is not suspected to have used any lubricants containing PCB. Any PCB present would normally be either inside intact non-leaking electrical equipment or other containers in good condition.

b. the number, handling and disposition of all transformers and conductors at each facility; and

Transformers are carefully managed to ensure they remain in good operating condition. Transformers are either used in the Company's electric distribution system or sent to the Company's transformer repair shop in Alma, Michigan for disposition. The annual number coming from Allegan is not known.

Two pad-mounted transformers are in-service at the Allegan Service Center. An August 12, 1986 memo from EJThallman to RBEldridge reports the PCB content of both as 5 ppm. It is likely that PCB was not detected in either. At the time, the laboratory reported non-detectable PCB as "<5." Many Company documents erroneously reflected such reports simply as "5."

c. data, analysis and other information regarding leaks, discharges or other releases from any transformer, conductor other equipment using oils or lubricants at each facility.

There are no known leaks or spills from any of this equipment.

14. To the extent not already provided in response to Request #12, identify any data, estimates, analyses or other information regarding the concentration of PCBs in the materials identified in your response to Request #13.

None known.

15. Describe the procedures used by you or anyone on your behalf to test PCB concentrations in the materials identified in your response to Requests #11 and #13, above. Include in your response test methods and dates.

Unknown.

16. Describe the procedures followed by you, or anyone on your behalf, to prevent, mitigate or address the release or threat of release of any material identified in your response to Requests #11 and #13, above.

The Company has standard practices for the prevention and response to releases. However, no releases are known to have occurred from such equipment.

17. Provide a figure delineating the groundwater flow direction on your property.

See Exhibit 3, Figure 1 – Site Diagram

18. Identify the depth(s) to groundwater at your property.

Groundwater depth varies from a recorded 1 foot to approximately 8 feet below grade across the site.

19. For each production process at each facility, identify and describe each waste stream from its creation to final disposition.

The site is not a production facility.

K00004084

20. For each facility, identify all past and present waste units (e.g., underground storage tanks, aboveground storage tanks, waste piles, landfills, surface impoundments, lagoons, dry wells, septic systems, floor drains, ponds, pits, machine pits, container storage areas). For each such waste unit identified, provide the following information:

a. The location of all past and present waste units whether currently in operation or not.

Past: 375 gallon used oil underground storage tank formerly located at the southeast corner of the garage.(see Exhibit 4 for location)

Current: Oil/water separator located in north west corner of garage area.(See Exhibit 4 for location)

b. The type of unit (e.g., underground storage tank, lagoon, dry well, etc).

Underground Storage Tank(s): Current: None
Past: 10,000 gallon gasoline (product)
5,000 gallon gasoline (product)
375 gallon used oil

Aboveground Storage Tank(s): 500 gallon used oil

Oil/water separator: Size unknown

c. The dates that the unit was in use.

Used Oil Underground Storage Tank: 1969 - 1990
Used Oil Aboveground Storage Tank: 1990 – Current

d. The purpose of past and/or present usage (e.g., storage, spill containment, waste disposal).

Past uses: Used Oil Underground Storage Tank: Storage

Current uses: Oil/water Separator: Spill Containment in the garage area.

e. The quantity and type(s) of materials (e.g., manufacturing materials, wastes, hazardous substances, pollutants and containments) located in each unit.

Former Used Oil UST: Used motor oil from vehicle engines.
Current Oil/Water Separator: Accumulated oily water from garage floor.

f. If the unit is no longer in use, describe how was such unit closed, and what actions were taken to prevent or address potential or actual releases of waste constituents from the unit(s). Include all analytical data from such closure.

Used Oil Underground Tank was removed from the ground. See Exhibit 1 regarding soil sampling.

K00004085

21. For each facility, identify any data, estimates, analyses or other information about the presence of PCBs in each waste stream created. To the extent available, provide such information on an annual basis.

No PCB was detected in the area of the former waste oil tank. See Allegan Service Center Exhibit I. See also response to question 11 for further information.

22. For each facility, identify any data, estimates, analyses or other information about the concentration of PCBs in each waste stream created. To the extent available, provide such information on an annual basis.

See responses to questions 11 and 21, above.

23. For each facility, describe the procedures used by you, your predecessor(s), or anyone on behalf of you or a predecessor, to test the PCB concentration in each waste produced, stored, treated or disposed at that facility. Include in your response test methods, media tested, and dates.

See responses to questions 11 and 21, above.

24. For each facility, identify each off-Site location at which wastes that contained or potentially contained PCBs were disposed. Further identify the dates of each such off-Site disposal, and the nature, quantity and PCB concentration of any such wastes.

See response to question 11, above.

25. For each facility, and for each waste produced, stored, treated or disposed at that facility:

a. identify the PCB concentration of any waste;

See response to question 11, above.

b. if the waste contained detectable concentration of PCBs, describe each occasion on which a release of such waste occurred or threatened to occur; and

None.

c. describe the procedures and measures taken by you, or anyone on your behalf, to prevent, mitigate or address the release or threat of release of PCBs or other hazardous materials.

The Company has standard practices for the prevention and response to releases. However, no releases are known to have occurred at this facility.

K00004086

26. For each release described in response to Request #25 above, describe the quantity of PCB-contaminated wastes that were released or threatened to be released, and state whether any PCBs contained in the wastes contributed to the presence, or threatened to contribute to the presence, of PCBs in the Kalamazoo River.

Not applicable.

27. For each facility, identify any data, estimates, analyses or other information about the history of flooding, or any other infiltration of water, from the Kalamazoo River.

None known.

28. To the extent not provided in your response to Request #19, describe each wastewater stream, waste oil stream, and wastewater/waste oil mixture stream at each facility, from its creation in the production process to final discharge point. In your response include a complete description of the fate of any wastewater stream, waste oil stream, and wastewater/waste oil mixture stream produced at each facility (e.g., on-site treatment, discharge to a POTW, discharge to a storm sewer outfall, direct discharge to the Kalamazoo River).

There are no production processes at the site.

Sanitary wastewater from the Service Center building is discharged to the Allegan POTW.

Additionally, impacted gasoline groundwater associated with the 10,000 gallon gasoline UST system is treated with activated carbon and discharged to the Allegan POTW.

As indicated in #19, used oil from vehicle maintenance is piped to an aboveground storage tank (historically, the used oil underground storage tank was used).

The garage area has an oil/water separator that collects floor drainage from within the garage area. Separated oil is collected for disposal. The separated water is discharged to the Allegan POTW.

29. To the extent not provided in response to Requests #19 and #28, identify the quantity of all (a) wastewater, (b) waste oil, and (c) wastewater/waste oil mixture produced, on a monthly basis, from each production process at each facility.

There are no production processes at the facility.

See discovery pages 3874-3876 for a listing of quantities of waste disposed, and disposal facility by shipment. Quantities of waste water sent to the POTW are not known.

K00004087

30. To the extent not provided in response to Requests #21 and #22, identify any data, estimates, analyses or other information about the presence and/or concentration of PCBs in the wastewater, waste oil and wastewater/waste oil mixture produced from each production process at each facility. To the extent available, provide such information on a monthly basis.

None known.

31. For each facility, identify any data, estimates, analyses or other information regarding the effectiveness of the treatment system(s) at that facility, if any, to remove PCBs from each wastewater stream, waste oil stream and wastewater/waste oil mixture stream.

No information available.

32. Identify any data, estimates, analyses or other information regarding procedures and measures taken by you, or by anyone on your behalf, to prevent, mitigate or address the release or threat of release of PCBs from wastewater, waste oils, or wastewater/waste oil mixtures to the Kalamazoo River.

The Company has standard practices for the prevention and response to releases. However, no releases are known to have occurred at this facility.

33. For any POTW identified in response to Request #28, provide, for each facility and on a monthly basis, all information regarding the amount of wastewater, waste oil and wastewater/waste oil mixture discharged to a POTW, the concentration of PCBs in the wastewater, waste oil and wastewater/waste oil mixtures discharged to the POTW from that facility and, to the extent such information is available, the PCB concentration in the effluent from the POTW.

No analytical data is generated for the sanitary sewer from the Service Center Building. There is no known potential source of PCB for the discharge to the sewer. The Company has no knowledge of the effluent from the POTW.

34. For each facility, identify each pipe, conduit, storm sewer, sewer line or other outfall that, directly or indirectly, terminates in the Kalamazoo River or its tributaries, past or present, into which treated, untreated or bypassed wastewater, waste oil, or any other waste (including wastewater/waste oil mixtures), from that facility was discharged. Include a figure identifying the source and location of each pipe, conduit, storm sewer, sewer line or other outfall.

Exhibit 4 is a site drawing. Storm water generally flows west to east across the site. There is an enclosed storm sewer that originates west of the facility property, traverses the site (where site drainage enters via grated storm manholes), and continues east to an open channel on the adjoining property. There is also an open drainage channel along the east property line that intercepts site surface drainage and directs the water flow to the north to a roadside open drain. The employee parking lot drains to a drainage structure and is directed to the north to an open drain.

35. For each pipe, conduit, storm sewer, sewer line or other outfall identified in your response to Request #34, identify dates of use and each outfall's source at the facility. Further provide, on a monthly basis, the volume of wastewater, waste oil or other waste (including wastewater/waste oil mixtures) discharged from the facility into each pipe, conduit, storm sewer, sewer line or other outfall.

The wastes discharged are stormwater. Monthly quantities and other requested information is unknown.

36. For each pipe, conduit, storm sewer, sewer line or other outfall identified in response to Request #34, identify all influent and effluent quality data. Include to the extent such information is available, the PCB concentration of all influent and effluent, on a monthly basis.

No data available.

37. For each pipe, conduit, storm sewer, sewer line or other outfall identified in response to Request #34, identify all bypasses or spills into the Kalamazoo River or its tributaries.

None known.

38. For each facility, identify any data, estimates, analyses or other information regarding the mass quantity of PCBs disposed into the Kalamazoo River as a result of wastewater, waste oil or wastewater/waste oil discharges from the production processes. To the extent available, provide such information on an annual basis.

The Allegan Service Center is not a production facility. There is no known discharge of PCB into the Kalamazoo River from the facility.

39. For each facility, identify any data, analyses or other information regarding the nature and quantity of hazardous substances, including PCBs, in the sediments, soil, groundwater and surface water at that facility. Identify the concentration levels of PCBs for all samples collected at the facility or at any property abutting the facility.

Soil: See Exhibit 1, pages A1a and A2b; no PCB detected
See Exhibit 2, Attachment 7 for volatiles; no PCB analysis
Groundwater: See Exhibit 2, Attachment 8 for volatiles; no PCB analysis
See Exhibit 2, Tables A and B for volatiles; no PCB analysis

40. For each facility, provide information regarding any environmental response activities involving or potentially involving PCBs or PCB-containing materials conducted at that facility, or on the Kalamazoo River, its tributaries, or other abutting property, at your direction or under your control. Indicate the date(s) on which such response activity was performed, what work was performed, the expenses incurred, the results of the response activity and, if it has not concluded, when the environmental response is expected to conclude.

None.

K00004089

41. Have you incurred any costs associated with the investigation, remediation or other action to address contamination at the Site or any portion thereof? If yes, identify all costs incurred by you through the date of this Information Request.

No.

K00004090

ALLEGAN SERVICE CENTER

EXHIBIT 1

MAY 13, 1992

ALLEGAN SERVICE CENTER
FORMER USED OIL UST
SOIL BORING INVESTIGATION OF APRIL 20, 1992

K00004091

EXHIBIT 1

To	HGHeyer, Grand Rapids	CONSUMERS POWER COMPANY
From	HWVoigt, T-260	
Date	May 13, 1992	Internal Correspondence
Subject	ALLEGAN SERVICE CENTER - Former Used Oil UST - Soil Boring Investigation Of April 20, 1992	
CC	RGNeumann, P12-123	File Index No. 519217-561-627

On April 20, 1992, personnel from the Chemistry and Material Service Department of Environmental and Technical Services (E&TS) completed a soil boring investigation of the Former Used Oil UST located at the ALLEGAN SERVICE CENTER.

Site information indicated the former excavation was 22'x10'x7' deep.

Soil borings were completed at specified soil boring locations utilizing the hollow-stem auger drilling method and split-barrel sampling technique. Six soil borings were completed at the UST excavation area; two (2) within the former UST excavation and four (4) just outside the former excavation perimeter. Representative soil samples were obtained in the natural soil stratum outside the former excavation at 6.0 to 8.0 feet below surface grade (boring locations ASB-1, ASB-4, ASB-5 and ASB-6), and at 6.5 to 8.5 feet below surface grade inside the former excavation (boring locations ASB-2 and ASB-3).

Groundwater at the former UST excavation area is estimated to be approximately 7 feet since soil samples collected at 6-8 feet and 6.5-8.5 feet were wet, however depth-to-water was not detected at the bottom of the auger.

An additional four (4) soil borings (ABGS-1 to ABGS-4) were completed as background soil survey borings approximately 120 feet west of the former UST excavation and are up-gradient of the excavation. Groundwater was encountered during the background soil survey borings at 3.5 feet (ABGS-4), 4.0 feet (ABGS-1 and ABGS-2) and at 5.0 feet (ABGS-3). Therefore, soil samples were collected at 2.5 to 4.5 feet and at 6.0 to 8.0 feet, in addition to water samples collected over approximately 4 to 6 feet.

The variation in groundwater elevation is probably the result of the existing groundwater cleanup activities underway at the site.

Excavation samples were returned to E&TS for determination of Polynuclear Aromatic Hydrocarbons (PAH), Aromatic Volatile Organics (BTEX), Polychlorinated Biphenyls (PCB) and Total Petroleum Hydrocarbons (TPH).

Background soil boring samples and groundwater were analyzed for Lead.

Results of the investigation are attached for your review.

ANALYTICAL METHODS

Soil Borings - Soil borings were completed with a 3-1/2" hollow-stem auger, with the lead auger being a "screened auger" fitted with a flexible plug in the cutter head. Soil borings and soil sampling were completed in accordance with ASTM D-1586 - Standard Method for PENETRATION TEST AND SPLIT-BARREL SAMPLING OF SOILS. Hammer blowcounts (N-value) were recorded for the sample interval of 6 to 18 in.

Sample Handling - Soil sample collection and handling was conducted in accordance with SW-846 recommendations. Soil samples were iced immediately after sampling and labeling. All samples were returned to the Chemistry and Material Service Department of E&TS for analysis.

Polynuclear Aromatic Hydrocarbon (PAH) - Method 8270, Gas Chromatography / Mass Spectrometry For Semivolatile Orgaincs: Capillary Column Technique. SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition (Proposed Update Package, 1989)

Aromatic Volatile Organics (BTEX) - Method 8021, Volatile Organic Compounds in Water by Purge & Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series. SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition (Proposed Update Package, 1989)

PCB - Method 8080, Organchlorine Pesticides and PCB (PCB Only). SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition, September 1986.

Total Petroleum Hydrocarbons (TPH) - Soil Samples - Method 3550, Sonication Extraction (with pre-treatment of sample with anhydrous magnesium sulfate and solvent extraction with F-113). SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition, September 1986. EPA Method 418.1, Petroleum Hydrocarbons, Total Recoverable (Infrared Spectrophotometric Method). Methods for Chemical Analysis of Water and Waste, USEPA EPA-600/4-79-020, March 1979

Soil Sample Lead - Method 3050, Acid Digestion Of Sediments, Sludges, and Soil. Method 7421, Lead (Atomic Absorption, Furnace Technique). SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition, September 1986.

Water Sample Lead - Method 7421, Lead (Atomic Absorption, Furnace Technique). SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition, September 1986.

K00004093

ANALYTICAL METHODS

TPH Distribution - State Of California, Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup and Underground Storage Tank Closure. Method ASTM D-2887, Standard Method For Boiling Range Distribution Of Petroleum Fractions By Gas Chromatography.

K00004094

TABLE A1a. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	ALLEGAN SERVICE CENTER - Waste Oil UST - Inside Former Excavation					Project Number CHEM-92-0627
Sample Identification	ASB-2	ASB-3				
	S1	S1				
Sample Depth (ft)	6.5-8.5	6.5-8.5				
Sample Type	soil	soil				
Sample Date	04-20-92	04-20-92				
Received Date	04-20-92	04-20-92				
Analysis Date	04-24-92	04-24-92				
Report Date	05-11-92	05-11-92				
Control Number	920627-02	920627-03				
BTEX, ug/kg - Method 8021						MDL
Benzene	nd	nd				10
Toluene	nd	12				10
Ethylbenzene	nd	20				10
m/p-Xylene	nd	280				10
o-Xylene	nd	200				10
Surrogate Recovery	% Recovery	% Recovery				
4-Bromofluorobenzene	94	93				
PAH, ug/kg - Method 8270						MDL
Naphthalene	nd	nd				330
Acenaphthylene	nd	nd				330
Acenaphthene	nd	nd				330
Fluorene	nd	nd				330
Phenanthrene	nd	nd				330
Anthracene	nd	nd				330
Fluoranthene	nd	nd				330
Pyrene	nd	nd				330
Benzo(a)anthracene	nd	nd				330
Chrysene	nd	nd				330
Benzo(b)fluoranthene	nd	nd				330
Benzo(k)fluoranthene	nd	nd				330
Benzo(a)pyrene	nd	nd				330
Indeno(1,2,3-cd)pyrene	nd	nd				330
Dibenzo(a,h)anthracene	nd	nd				330
Benzo(g,h,i)perylene	nd	nd				330
Surrogate Recovery	% Recovery	% Recovery				
Terphenyl-d14	96	98				

NOTES: MDL = Method Detection Limit, ug/kg (parts-per-billion)
nd = Parameter Not Detected At MDL

Reviewed By [illegible] Date 051392 Data File 920627

K00004095

TABLE A1b. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	ALLEGAN SERVICE CENTER - Waste Oil UST - Inside Former Excavation					Project Number CHEM-92-0627
Sample Identification	ASB-2 S1	ASB-3 S1				
Sample Depth (ft)	6.5-8.5	6.5-8.5				
Sample Type	soil	soil				
Sample Date	04-20-92	04-20-92				
Received Date	04-20-92	04-20-92				
Analysis Date	04-24-92	04-24-92				
Report Date	05-11-92	05-11-92				
Control Number	920627-02	920627-03				
PCB, ug/kg - Method 8080						MDL
Total PCB	nd	nd				33
TPH, mg/kg - Method 418.1						MDL
TPH	43	34				10
TPH Distribution, mg/kg						MDL
Gasoline Range	2	6				1
Fuel Oil Range	nd	nd				4
Lube Oil Range	nd	nd				10

NOTES:
MDL = Method Detection Limit, ug/kg (parts-per-billion)
MDL = Method Detection Limit, mg/kg (parts-per-million)
nd = Parameter Not Detected At MDL

Reviewed By HW Dougt Date 05/3 92 Data File 920627

K00004096

TABLE A2a. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	ALLEGAN SERVICE CENTER - Waste Oil UST - Outside Former Excavation				Project Number CHEM-92-0627	
Sample Identification	ASB-1 S1	ASB-4 S1	ASB-5 S1	ASB-6 S1		
Sample Depth (ft)	6.0-8.0	6.0-8.0	6.0-8.0	6.0-8.0		
Sample Type	soil	soil	soil	soil		
Sample Date	04-20-92	04-20-92	04-20-92	04-20-92		
Received Date	04-20-92	04-20-92	04-20-92	04-20-92		
Analysis Date	04-24-92	04-24-92	04-24-92	04-24-92		
Report Date	05-11-92	05-11-92	05-11-92	05-11-92		
Control Number	920627-01	920627-04	920627-05	920627-06		
BTEX, ug/kg - Method 8021						MDL
Benzene	nd	nd	nd	nd		10
Toluene	nd	nd	nd	nd		10
Ethylbenzene	nd	nd	10	21		10
m/p-Xylene	nd	30	55	190		10
o-Xylene	nd	10	35	180		10
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery		
4-Bromofluorobenzene	89	94	95	94		
PAH, ug/kg - Method 8270						MDL
Naphthalene	nd	nd	nd	nd		330
Acenaphthylene	nd	nd	nd	nd		330
Acenaphthene	nd	nd	nd	nd		330
Fluorene	nd	nd	nd	nd		330
Phenanthrene	nd	nd	nd	nd		330
Anthracene	nd	nd	nd	nd		330
Fluoranthene	nd	nd	nd	nd		330
Pyrene	nd	nd	nd	nd		330
Benzo(a)anthracene	nd	nd	nd	nd		330
Chrysene	nd	nd	nd	nd		330
Benzo(b)fluoranthene	nd	nd	nd	nd		330
Benzo(k)fluoranthene	nd	nd	nd	nd		330
Benzo(a)pyrene	nd	nd	nd	nd		330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd		330
Dibenzo(a,h)anthracene	nd	nd	nd	nd		330
Benzo(g,h,i)perylene	nd	nd	nd	nd		330
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery		
Terphenyl-d14	97	98	98	95		

NOTES: MDL = Method Detection Limit, ug/kg (parts-per-billion)
nd = Parameter Not Detected At MDL

Reviewed By KW Vogt Date 05/13/92 Data File 920627

K00004097

TABLE A2b. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	ALLEGAN SERVICE CENTER - Waste Oil UST - Outside Former Excavation				Project Number CHEM-92-0627	
Sample Identification	ASB-1 S1	ASB-4 S1	ASB-5 S1	ASB-6 S1		
Sample Depth (ft)	6.0-8.0	6.0-8.0	6.0-8.0	6.0-8.0		
Sample Type	soil	soil	soil	soil		
Sample Date	04-20-92	04-20-92	04-20-92	04-20-92		
Received Date	04-20-92	04-20-92	04-20-92	04-20-92		
Analysis Date	04-24-92	04-24-92	04-24-92	04-24-92		
Report Date	05-11-92	05-11-92	05-11-92	05-11-92		
Control Number	920627-01	920627-04	920627-05	920627-06		
PCB, ug/kg - Method 8080						MDL
Total PCB	nd	nd	nd	nd		33
TPH, ug,kg - Method 418.1						MDL
TPH	20	28	27	900		10
TPH Distribution, mg/kg						MDL
Gasoline Range	1	6	21	450		1
Fuel Oil Range	nd	nd	nd	nd		4
Lube Oil Range	nd	nd	nd	nd		10

NOTES:
MDL = Method Detection Limit, ug/kg (parts-per-billion)
MDL = Method Detection Limit, mg/kg (parts-per-million)
nd = Parameter Not Detected At MDL

Reviewed By HW Dorgt Date 051392 Data File 920627

K00004098

TABLE A3. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	ALLEGAN SERVICE CENTER - Waste Oil UST - Background Soil Survey				Project Number CHEM-92-0627	
Sample Identification	ABGS-1 S2	ABGS-2 S2	ABGS-3 S2	ABGS-4 S2		
Sample Depth (ft)	6.0-8.0	6.0-8.0	6.0-8.0	6.0-8.0		
Sample Type	soil	soil	soil	soil		
Sample Date	04-20-92	04-20-92	04-20-92	04-20-92		
Received Date	04-20-92	04-20-92	04-20-92	04-20-92		
Analysis Date	04-24-92	04-24-92	04-24-92	04-24-92		
Report Date	05-11-92	05-11-92	05-11-92	05-11-92		
Control Number	920627-07	920627-08	920627-09	920627-10		
TOTAL METALS, ug/kg						MDL
Lead	2,200	3,900	4,500	7,200		1,000
Sample Identification	ABGS-1 S1	ABGS-2 S1	ABGS-3 S1	ABGS-4 S1		
Sample Depth (ft)	2.5-4.5	2.5-4.5	2.5-4.5	2.5-4.5		
Sample Type	soil	soil	soil	soil		
Sample Date	04-20-92	04-20-92	04-20-92	04-20-92		
Received Date	04-20-92	04-20-92	04-20-92	04-20-92		
Analysis Date	04-24-92	04-24-92	04-24-92	04-24-92		
Report Date	05-11-92	05-11-92	05-11-92	05-11-92		
Control Number	920627-11	920627-12	920627-13	920627-14		
TOTAL METALS, ug/kg						MDL
Lead	5,800	7,800	5,600	5,800		1,000
Sample Identification	ABGS-1 W1	ABGS-2 W1	ABGS-3 W1	ABGS-4 W1		
Sample Depth (ft)	4.0-6.0	4.0-6.0	5.0-6.0	3.5-6.0		
Sample Type	water	water	water	water		
Sample Date	04-20-92	04-20-92	04-20-92	04-20-92		
Received Date	04-20-92	04-20-92	04-20-92	04-20-92		
Analysis Date	04-22-92	04-22-92	04-22-92	04-22-92		
Report Date	05-11-92	05-11-92	05-11-92	05-11-92		
Control Number	920627-15	920627-16	920627-17	920627-18		
DISSOLVED METALS, ug/L						MDL
Lead	nd	nd	nd	nd		3

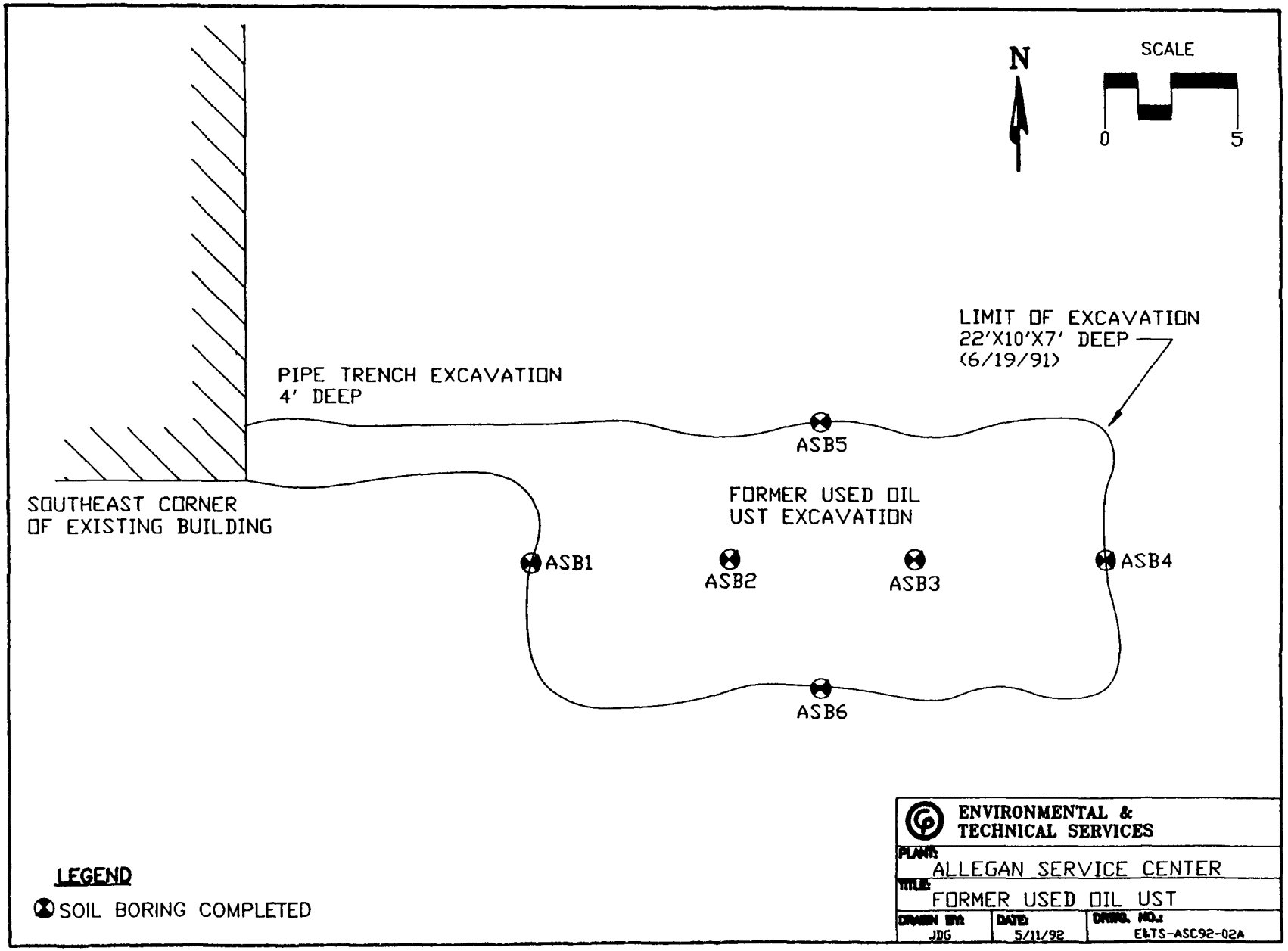
NOTES:
MDL = Method Detection Limit, ug/kg (parts-per-billion)
MDL = Method Detection Limit, ug/L (parts-per-billion)
nd = Parameter Not Detected At MDL

Reviewed By HW Voyt Date 051392 Data File 920627

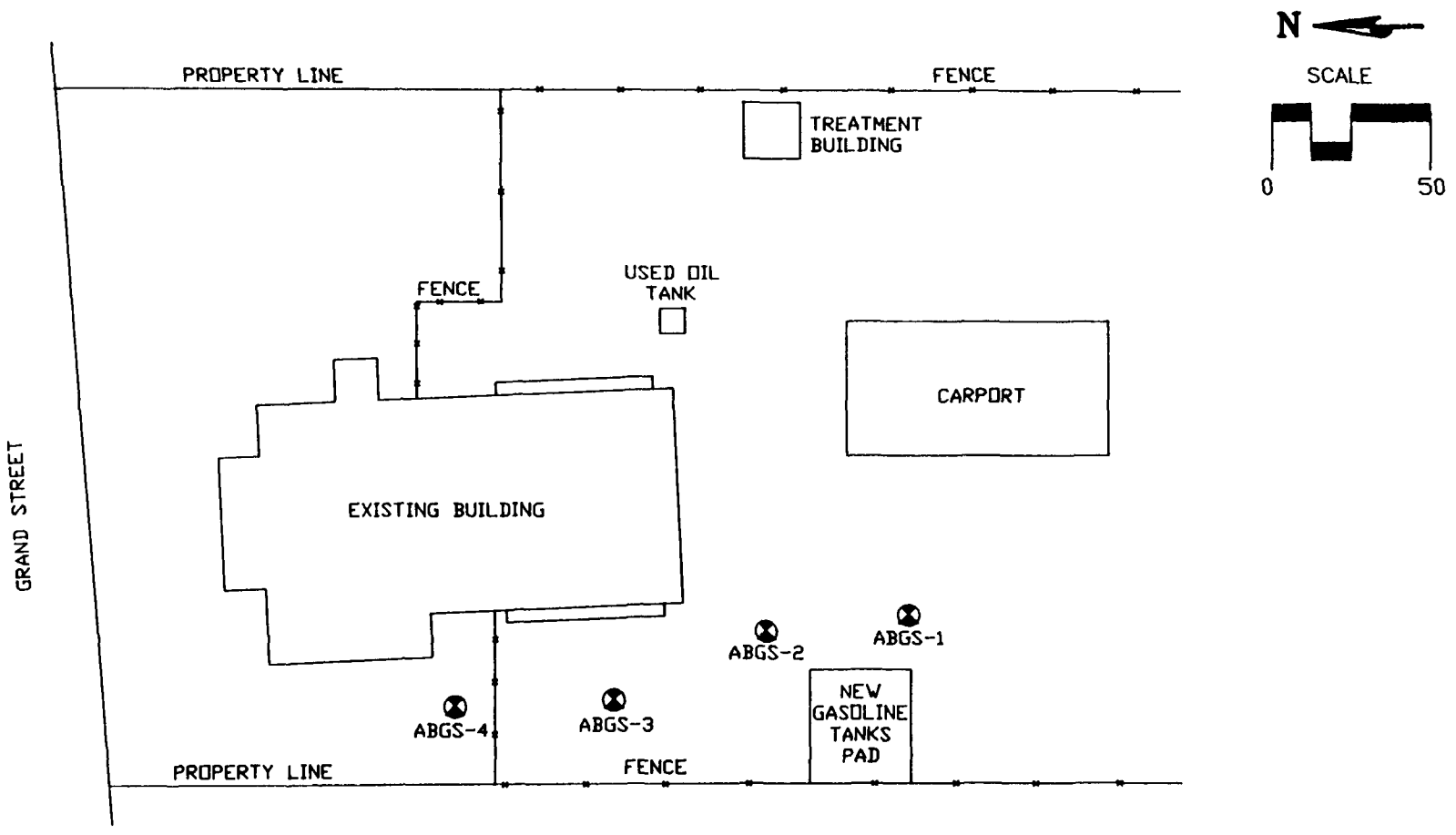
K00004099

ATTACHMENT - B

SOIL BORING LOCATIONS


N
SCALE
0
5
LIMIT OF EXCAVATION
22'X10'X7' DEEP
(6/19/91)
PIPE TRENCH EXCAVATION
4' DEEP
ASB5
SOUTHEAST CORNER
OF EXISTING BUILDING
FORMER USED OIL
UST EXCAVATION
ASB1
ASB2
ASB3
ASB4
ASB6
LEGEND
SOIL BORING COMPLETED
ENVIRONMENTAL &
TECHNICAL SERVICES
PLANT:
ALLEGAN SERVICE CENTER
TITLE:
FORMER USED OIL UST
DRAWN BY:
JDG
DATE:
5/11/92
DRWG. NO.:
ETS-ASC92-02A

K00004101



LEGEND

⊗ SOIL BORING COMPLETED

NOTES

1) DRAWING DEVELOPED FROM ORIGINAL INFORMATION BY DAMES & MOORE, JUNE 1991

ENVIRONMENTAL & TECHNICAL SERVICES		
PLANT: ALLEGAN SERVICE CENTER		
TITLE: BACKGROUND SOIL BORINGS		
DRAWN BY: JDG	DATE: 5/7/92	DWG. NO.: E&TS-ASC92-01A

K000004102

ATTACHMENT - C

SOIL BORING PROFILES

SOIL BORING PROFILE

Site Location: ALLEGAN SERVICE CENTER

Boring Location: Former Used Oil UST - Outside Excavation

Soil Boring Number: ASB-1

Sampling Date: 04-20-92

Depth-To-Water (below surface grade), ft = not detected

SOIL BORING PROFILE

Sample Depth from - to (ft)	Method HS/SS	Penetration 6-18" N-value	Sample Recovery (in)	Soil Description - (*) Notes
0.0 - 0.4	HS	na	na	*asphalt
0.4 - 6.0	HS	na	na	*brown sand and gravel
6.0 - 8.0	SS	8	18	gray med sand, trace clay, wet
EOB				*borehole filled with cuttings and bentonite

HS = Hollow-Stem Auger
SS = Split-Barrel Sampler
GS = Grab Sample

SOIL BORING PROFILE

Site Location: ALLEGAN SERVICE CENTER

Boring Location: Former Used Oil UST - Inside Excavation

Soil Boring Number: ASB-2

Sampling Date: 04-20-92

Depth-To-Water (below surface grade), ft = not detected

SOIL BORING PROFILE

Sample Depth from - to (ft)	Method HS/SS	Penetration 6-18" N-value	Sample Recovery (in)	Soil Description - (*) Notes
0.0 - 0.4	HS	na	na	*asphalt
0.4 - 6.5	HS	na	na	*brown sand and gravel
6.5 - 8.5	SS	8	19	gray med sand, trace clay, wet
EOB				*borehole filled with cuttings and bentonite

HS = Hollow-Stem Auger
SS = Split-Barrel Sampler
GS = Grab Sample

SOIL BORING PROFILE

Site Location: ALLEGAN SERVICE CENTER

Boring Location: Former Used Oil UST - Inside Excavation

Soil Boring Number: ASB-3

Sampling Date: 04-20-92

Depth-To-Water (below surface grade), ft = not detected

SOIL BORING PROFILE

Sample Depth from - to (ft)	Method HS/SS	Penetration 6-18" N-value	Sample Recovery (in)	Soil Description - (*) Notes
0.0 - 0.4	HS	na	na	*asphalt
0.4 - 6.5	HS	na	na	*brown sand and gravel
6.5 - 8.5	SS	8	18	gray med sand, trace clay, wet
EOB				*borehole filled with cuttings and bentonite

HS = Hollow-Stem Auger
SS = Split-Barrel Sampler
GS = Grab Sample

SOIL BORING PROFILE

Site Location: ALLEGAN SERVICE CENTER

Boring Location: Former Used Oil UST - Outside Excavation

Soil Boring Number: ASB-4

Sampling Date: 04-20-92

Depth-To-Water (below surface grade), ft = not detected

SOIL BORING PROFILE

Sample Depth from - to (ft)	Method HS/SS	Penetration 6-18" N-value	Sample Recovery (in)	Soil Description - (*) Notes
0.0 - 0.4	HS	na	na	*asphalt
0.4 - 6.0	HS	na	na	*brown sand and gravel
6.0 - 8.0	SS	19	20	gray med sand, trace clay, wet
EOB				*borehole filled with cuttings and bentonite

HS = Hollow-Stem Auger
SS = Split-Barrel Sampler
GS = Grab Sample

SOIL BORING PROFILE

Site Location: ALLEGAN SERVICE CENTER

Boring Location: Former Used Oil UST - Outside Excavation

Soil Boring Number: ASB-5

Sampling Date: 04-20-92

Depth-To-Water (below surface grade), ft = not detected

SOIL BORING PROFILE

Sample Depth from - to (ft)	Method HS/SS	Penetration 6-18" N-value	Sample Recovery (in)	Soil Description - (*) Notes
0.0 - 0.4	HS	na	na	*asphalt
0.4 - 6.0	HS	na	na	*brown sand and gravel
6.0 - 8.0	SS	14	19	gray med sand, trace clay, wet
EOB				*borehole filled with cuttings and bentonite

HS = Hollow-Stem Auger
SS = Split-Barrel Sampler
GS = Grab Sample

SOIL BORING PROFILE

Site Location: ALLEGAN SERVICE CENTER

Boring Location: Former Used Oil UST - Outside Excavation

Soil Boring Number: ASB-6

Sampling Date: 04-20-92

Depth-To-Water (below surface grade), ft = not detected

SOIL BORING PROFILE

Sample Depth from - to (ft)	Method HS/SS	Penetration 6-18" N-value	Sample Recovery (in)	Soil Description - (*) Notes
0.0 - 0.4	HS	na	na	*asphalt
0.4 - 6.0	HS	na	na	*brown sand and gravel
6.0 - 8.0	SS	11	18	gray med sand, trace clay, wet
EOB				*borehole filled with cuttings and bentonite

HS = Hollow-Stem Auger
SS = Split-Barrel Sampler
GS = Grab Sample

K00004109

SOIL BORING PROFILE

Site Location: ALLEGAN SERVICE CENTER

Boring Location: Background Soil Survey

Soil Boring Number: ABGS-1

Sampling Date: 04-20-92

Depth-To-Water (below surface grade), ft = 4.0

SOIL BORING PROFILE

Sample Depth from - to (ft)	Method HS/SS	Penetration 6-18" N-value	Sample Recovery (in)	Soil Description - (*) Notes
0.0 - 0.4	HS	na	na	*asphalt
0.4 - 2.5	HS	na	na	*brown sand and gravel
2.5 - 4.5	SS	9	23	brown med sand, trace clay
4.5 - 6.0	HS	na	na	brown med sand and brown clay
6.0 - 8.0	SS	11	19	brown clay
				*dtw 4.0 feet water sample collected
EOB				*borehole filled with cuttings and bentonite

HS = Hollow-Stem Auger
SS = Split-Barrel Sampler
GS = Grab Sample

SOIL BORING PROFILE

Site Location: ALLEGAN SERVICE CENTER

Boring Location: Background Soil Survey

Soil Boring Number: ABGS-2

Sampling Date: 04-20-92

Depth-To-Water (below surface grade), ft = 4.0

SOIL BORING PROFILE

Sample Depth from - to (ft)	Method HS/SS	Penetration 6-18" N-value	Sample Recovery (in)	Soil Description - (*) Notes
0.0 - 0.4	HS	na	na	*asphalt
0.4 - 2.5	HS	na	na	*brown sand and gravel
2.5 - 4.5	SS	12	20	brown med sand, trace clay
4.5 - 6.0	HS	na	na	brown med sand and brown clay
6.0 - 8.0	SS	21	23	brown clay
				*dtw 4.0 feet water sample collected
EOB				*borehole filled with cuttings and bentonite

HS = Hollow-Stem Auger
SS = Split-Barrel Sampler
GS = Grab Sample

SOIL BORING PROFILE

Site Location: ALLEGAN SERVICE CENTER

Boring Location: Background Soil Survey

Soil Boring Number: ABGS-3

Sampling Date: 04-20-92

Depth-To-Water (below surface grade), ft = 5.0

SOIL BORING PROFILE

Sample Depth from - to (ft)	Method HS/SS	Penetration 6-18" N-value	Sample Recovery (in)	Soil Description - (*) Notes
0.0 - 0.4	HS	na	na	*asphalt
0.4 - 2.5	HS	na	na	*brown sand and gravel
2.5 - 4.5	SS	14	18	brown med sand, trace clay
4.5 - 6.0	HS	na	na	brown med sand and brown clay
6.0 - 8.0	SS	26	22	gray clay
				*dtw 5.0 feet water sample collected
EOB				*borehole filled with cuttings and bentonite

HS = Hollow-Stem Auger
SS = Split-Barrel Sampler
GS = Grab Sample

K00004112

SOIL BORING PROFILE

Site Location: ALLEGAN SERVICE CENTER

Boring Location: Background Soil Survey

Soil Boring Number: ABGS-4

Sampling Date: 04-20-92

Depth-To-Water (below surface grade), ft = 3.5

SOIL BORING PROFILE

Sample Depth from - to (ft)	Method HS/SS	Penetration 6-18" N-value	Sample Recovery (in)	Soil Description - (*) Notes
0.0 - 0.4	HS	na	na	*asphalt
0.4 - 2.5	HS	na	na	*brown sand and
2.5 - 4.5	SS	14	18	brown med sand, trace clay
4.5 - 6.0	HS	na	na	brown med sand and brown clay
6.0 - 8.0	SS	20	18	gary clay
				*dtw 3.5 feet water sample collected
EOB				*borehole filled with cuttings and bentonite

HS = Hollow-Stem Auger
SS = Split-Barrel Sampler
GS = Grab Sample

ALLEGAN SERVICE CENTER

EXHIBIT ~~B~~ Z

DECEMBER 1995

CLOSURE REPORT (FORMER 5,000 GALLON GASOLINE UST)

K00004114

WILKINS & WHEATON ENVIRONMENTAL SERVICES, INC.

CLOSURE REPORT

CONSUMERS POWER COMPANY
670 GRAND STREET
ALLEGAN, MICHIGAN

December 1995

Prepared by:

WILKINS & WHEATON ENVIRONMENTAL SERVICES, INC.
169 Portage Street
Kalamazoo, Michigan 49007
(616) 345-1144

K00004115

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION

DEQ

LEAKING UNDERGROUND STORAGE TANK
CLOSURE REPORT

INSTRUCTIONS: COMPLETION OF THIS REPORT WITH ALL APPLICABLE INFORMATION IS MANDATORY. The Certified Underground Storage Tank Professional (CP) MUST sign below. Failure to submit this report within the stated time period may result in Administrative Penalties as provided for in Part 213, Section 21321 of Act 451, P.A. 1994 as amended.

FACILITY NAME: Consumers Power Company	FACILITY ID NUMBER: 0-017374
ADDRESS: 670 Grand Street (M222) COUNTY: Allegan	MERA SITE ID NUMBER: 030006
DATE(S) RELEASE DISCOVERED: Nov 7, 1995	CONFIRMED RELEASE NUMBER(S): C-1186-95
O/O NAME: Consumers Power Company	MUSTFA CLAIM NUMBER: N.A.
O/O ADDRESS: 212 W. Michigan Ave., Jackson, Michigan 49201	
CONTACT PERSON: Robert G. Neumann P.E.	PHONE NUMBER: (517)788-0350

ANSWER ALL QUESTIONS, (DO NOT LEAVE BLANKS):

1. Has the UST been emptied? X Yes ___ No (If no, explain why):
2. Free product present: a. Currently? ___ YES X NO If YES, total gallons recovered since last report:
   b. Previously? ___ YES X NO If YES, total gallons recovered to date:
3. Have vapors been identified in any confined spaces (basement, sewers)? ___ YES X NO
4. State the number of homes where drinking water is or was affected as a result of a release from this facility: None
5. Estimated distance and direction from point of release to nearest:
   a. Private well: 742 Grand b. Municipal well: > 2500 feet c. Surface water/wetland: > 500 feet
6. Since last report: a. cubic yards of soil remediated: 0 yds b. gallons of groundwater remediated: 0 gallons
7. Totals to date: a. cubic yards of soil remediated: 15 yds b. gallons of groundwater remediated: 0 gallons
8. Michigan RBCA Site Classification (1-4): 4

CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate and complete. I certify that it was submitted to the USTD on December 8, 1995.
(date submitted-Required)

Grant Kolb 12/8/95	Ram Vuddagiri, Ph.D., P.E.
CP Original Signature - Required Date	PRINT QC Project Manager's Name
Grant Kolb	Wilkins & Wheaton Env. Services, Inc.
PRINT CP's Name	CONSULTANT
169 Portage Street, Kalamazoo	(616)345-1144 (616)385-1840
ADDRESS	TELEPHONE NO. FAX NO.

CERTIFICATION OF CLOSURE

1. Type of RBCA Evaluation: X Tier 1 ___ Tier 2 ___ Tier 3
2. Closure report based on which type of land use?: X Residential ___ Commercial III ___ Commercial IV ___ Industrial
3. Institutional Controls: ___ None ___ Notice of Corrective Action ___ Restrictive Covenant

I certify under penalty of law that corrective actions associated with the above referenced release at this facility were completed in accordance with Part 213, Act 451, P.A. 1994 as amended, and current departmental guidance and procedures available at this time.

I further certify that 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 directly responsible for gathering the information, the information submitted is, to 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 or imprisonment for knowing violations.

Grant Kolb	December 8, 1995
CP Signature - Required	Date

PLEASE RETURN THIS COMPLETED REPORT AND ASSOCIATED ATTACHMENTS TO THE APPROPRIATE USTD DISTRICT OFFICE LISTED ON THE BACK OF THIS PAGE.

K00004116

EQP 3843 (REV. 10/95)

Consumers Power
POWERING MICHIGAN'S PROGRESS
Environmental & Technical Services Department: 1945 West Parnall Rd, Jackson, MI 49201 • FAX (517) 788-2329

December 6, 1995 18SM905.9.7

Underground Storage Tank Division
Michigan Department of Environmental Quality
Plainwell District Office
1342 SR-89, Suite B
Plainwell, MI 49080-1915

UST CLOSURE REQUEST
FORMER 5,000 GALLON GASOLINE UST
ALLEGAN SERVICE CENTER
FACILITY ID# 0-017374
MERA SITE ID# 030006
CONFIRMED RELEASE # C-1186-95

Enclosed for review and approval is a "Closure Report" as prepared by the site Qualified Consultant, Wilkins & Wheaton Environmental Services Inc. The report addresses the former 5,000 gallon gasoline UST system at the Allegan Service Center, 670 Grand Street , Allegan, MI.

The report indicates gasoline corrective actions are complete at the former tank location pursuant to the "de minimis" spill investigation and reporting requirements of Part 213, Act 451, PA 1994.

Therefore, based upon the data presented in the report, Consumers Power Company supports the report findings. Consumers Power Company requests that the former 5,000 gallon gasoline UST System be removed from all lists of contamination in Michigan.

If there are any questions, please contact me at 517-788-0350 or Mr Ram Vuddagiri at Wilkins & Wheaton on 616-345-1144.

Robert G Neumann PE
UST Compliance Engineer
Environmental and Technical Services Department

cc AFGoodman, M-1049 MJWilliams, Grand Rapids
AMAurino, Owosso RLWarner, Allegan

K00004117

01295-06.RGN

A CMS ENERGY COMPANY

TOTAL P.02

UNDERGROUND STORAGE TANK DIVISION OFFICES AND LOCATIONS

Determine in which county the UST release occurred. Return all completed forms and associated reports to the USTD office listed next to that county in the following table. Addresses for the USTD offices are listed below.

COUNTY	USTD OFFICE	COUNTY	USTD OFFICE	COUNTY	USTD OFFICE	COUNTY	USTD OFFICE
Alcona	Grayling	Dickinson	Marquette	Lake	Grayling	Oceana	Grand Rapids
Alger	Marquette	Eaton	Shiawassee	Lapeer	Shiawassee	Ogemaw	Grayling
Allegan	Plainwell	Emmet	Grayling	Leelanau	Grayling	Ontonagon	Marquette
Alpena	Grayling	Genesee	Shiawassee	Lenawee	Jackson	Osceola	Grayling
Antrim	Grayling	Gladwin	Grayling	Livingston	Shiawassee	Oscoda	Grayling
Arenac	Grayling	Gogebic	Marquette	Luce	Marquette	Otsego	Grayling
Baraga	Marquette	Grand Traverse	Grayling	Mackinac	Marquette	Ottawa	Grand Rapids
Barry	Plainwell	Gratiot	Shiawassee	Macomb	SE Michigan	Presque Isle	Grayling
Bay	Saginaw-Bay	Hillsdale	Jackson	Manistee	Grayling	Roscommon	Grayling
Benzie	Grayling	Houghton	Marquette	Marquette	Marquette	Saginaw	Saginaw-Bay
Berrien	Plainwell	Huron	Saginaw-Bay	Mason	Grayling	Sanilac	Saginaw-Bay
Branch	Jackson	Ingham	Shiawassee	Mecosta	Grand Rapids	Schoolcraft	Marquette
Calhoun	Jackson	Ionia	Grand Rapids	Menominee	Marquette	Shiawassee	Shiawassee
Cass	Plainwell	Iosco	Grayling	Midland	Saginaw-Bay	St Clair	SE Michigan
Charlevoix	Grayling	Iron	Marquette	Missaukee	Grayling	St Joseph	Plainwell
Cheboygan	Grayling	Isabella	Saginaw-Bay	Monroe	SE Michigan	Tuscola	Saginaw-Bay
Chippewa	Marquette	Jackson	Jackson	Montcalm	Grand Rapids	Van Buren	Plainwell
Clare	Grayling	Kalamazoo	Plainwell	Montmorency	Grayling	Washtenaw	Jackson
Clinton	Shiawassee	Kalkaska	Grayling	Muskegon	Grand Rapids	Wayne	SE Michigan
Crawford	Grayling	Kent	Grand Rapids	Newaygo	Grand Rapids	Wexford	Grayling
Delta	Marquette	Keweenaw	Marquette	Oakland	SE Michigan		

CADILLAC OFFICE ROUTE #1 8015 MACKINAW TRAIL CADILLAC MI 49601 616-775-9727 (PHONE) 616-775-9671 (FAX)	**JACKSON OFFICE** 301 E LOUIS GLICK HIGHWAY JACKSON MI 49201 517-780-7900 (PHONE) 517-780-7855 (FAX)	**SAGINAW BAY OFFICE** 503 N EUCLID AVE SUITE 9 BAY CITY MI 48706 517-684-9141 (PHONE) 517-684-9799 (FAX)
GAYLORD OFFICE P0 BOX 667 GAYLORD MI 49735 517-732-3541 (PHONE) 517-732-0794 (FAX)	**MARQUETTE OFFICE** 1990 US 41 SOUTH MARQUETTE MI 49855 906-228-6561 (PHONE) 906-228-5245 (FAX)	**SHIAWASSEE OFFICE** 10650 BENNETT DR MORRICE MI 48857-9792 517-625-4600 (PHONE) 517-625-5000 (FAX)
GRAND RAPIDS OFFICE 350 OTTAWA ST NW GRAND RAPIDS MI 49503 616-456-5071 (PHONE) 616-456-1239 (FAX)	**PLAINWELL OFFICE** 1342 SR-89 SUITE B PLAINWELL MI 49080-1915 616-692-2120 (PHONE) 616-692-3050 (FAX)	**SE MICHIGAN OFFICE** 38980 SEVEN MILE RD LIVONIA MI 48152 313-953-0241 (PHONE) 313-953-0243 (FAX)
GRAYLING OFFICE 1955 NORTH I-75 BL GRAYLING MI 49738 517-348-6371 (PHONE) 517-348-8825 (FAX)		

K00004118

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K00004119

LIST OF ATTACHMENTS

(Include as Required and Check Box if Attached)

Attachments 1 - 6, 9 and 12 are to be submitted if applicable.

Attachments 7,8, 10, 11, 13 and 14 are found in the back of this document and should be completed and submitted when necessary to certify closure.

ATTACHMENT NUMBER		DESCRIPTION
1	☐	Schematic Drawing of the Remedial System
2	☐	Public Notification Document(s)
3	☐	Permission of Property Owner to File a Notice of Corrective Action
4	☐	Permission of Property Owner to File a Notice of Restrictive Covenant
5	☒	Site Map Showing the Extent of the Former Soil Contamination and the Soil Verification Sampling Locations
6	☒	Excavation Drawing Showing Soil Verification Sampling Locations
7	☒	Data Table Showing All Soil Verification Sampling Results (Laboratory)
8	☒	Comparison Table for Soil Verification
9	☐	Site Map Showing the Extent of the Former Groundwater Contamination and the Groundwater Verification Sampling Locations
10	☒	Data Table Showing All Groundwater Verification Sampling Results (Laboratory)
11	☒	Comparison Table for Groundwater Verification
12	☐	Site Map Showing the Extent of the Former Other Media Contamination and the Other MediaVerification Sampling Locations
13	☐	Data Table Showing All Other Media Verification Sampling Results (Laboratory)
14	☐	Comparison Table for Other Media Verification

NOTE: Not all the attachments included are applicable for this particular report. They have been included for the sake of completeness of the report (36 pages).

K00004120

1.0 PROJECT CHRONOLOGY

A. Date Confirmed Release Discovered:	Nov / 07 / 1995
B. Date Confirmed Release Report Submitted:	Nov / 07 / 1995
C. Date Initial Assessment Report Submitted:	NA / /
D. Other Milestone Date *(Specify:* _____*)*:	NA / /
E. Other Milestone Date *(Specify:* _____*)*:	NA / /
F. Date Final Assessment Report Submitted:	NA / /
G. Other Milestone Date *(Specify:* _____*)*:	NA / /
H. Date Closure Report Submitted:	Dec / 08 / 1995

2.0 DE MINIMIS CLASSIFICATION

A. Was this a *de minimis* spill as defined in Section 324.21302(e)? ☒ Yes ☐ No

NOTE: If "Yes", complete questions "B" and "C" below and only the following remaining sections of this Closure Report: 3.1, 3.2, 3.6, 4.1, and the Cover Sheet Certification.

B. Volume of soil remediated or disposed to date: 15 yds^3

C. Disposal facility name(s) and location(s): C&C Landfill, 14800 P Drive North, Marshall, Michigan 49068

3.0 SUMMARY OF CORRECTIVE ACTION ACTIVITIES PERFORMED

Summarize the overall program and the primary components of the corrective action performed at the facility by addressing each project phase identified below ***that was relevant to this site and its remediation. Include a schematic drawing of the remedial system (Attachment No. 1).*** *Attach additional sheets, if necessary.*

3.1 RELEASE REPORTING

A. List the source(s) of the release and the location(s) where contamination was first discovered:

The only source of the release appeared to be around the tank at the containment and drop tube sumps that were exposed during the tank removal on November 7, 1995. Olfactory and soil staining were observed around the containment sumps suggesting overfill impact to surrounding tank backfill.

3.2 IMMEDIATE RESPONSE ACTION IMPLEMENTATION

A. Date Began: Nov / 07 / 1995

B. Date Completed: Nov / 07 / 1995

C. List the initial response actions performed (*excluding free product removal*):

Using field screening (PID), visual evidence, and odor as a guide removed impacted soils from around the containment sump area. Approximately 15 yds of soil were removed from around the containment sump area.

K00004121

EQP 3843 (REV. 10/95)

3.3 FREE PRODUCT DISCOVERY AND REMOVAL

A. Was free product discovered? ☐ Yes ☐ No

If "No", skip to Section 3.4; if "Yes", complete questions "B" through "G"

B. Date Free Product Discovered: _____/_____/_____
C. Date Free Product Reported to USTD: _____/_____/_____
D. Date Free Product Removal Began: _____/_____/_____
E. Date Free Product Removal Completed: _____/_____/_____
F. Briefly describe the approach used to remove or recover the free product: _____

_____
_____
_____
_____
_____
_____
_____

G. Total Quantity of Free Product Recovered: _____ gallons

3.4 SITE ASSESSMENT ACTIVITIES

A. Date Initial Assessment Began: _____/_____/_____
B. Date Initial Assessment Completed: _____/_____/_____
C. Check the environmental media sampled and analyzed during this phase of investigation: (*Check all that apply*)

☐ Soil ☐ Air ☐ Sediments ☐ Other *Specify)*:
☐ Groundwater ☐ Surface Water ☐ Biota _____

D. Briefly describe the sampling and analysis performed during the initial assessment phase for each medium checked above:_____

_____
_____
_____
_____

E. Date Final Assessment Began: _____/_____/_____
F. Date Final Assessment Completed: _____/_____/_____
G. Check the environmental media sampled and analyzed during this phase of investigation: (*Check all that apply*)

☐ Soil ☐ Air ☐ Sediments ☐ Other
☐ Groundwater ☐ Surface Water ☐ Biota *(Specify)*:_____

K00004122

H. Briefly describe the additional sampling and analysis performed during the final assessment phase for each medium checked above: _____

I. Briefly describe and explain any differences between the Work Plan submitted with the Initial Assessment Report and the site characterization work performed: _____

3.5 SITE CLASSIFICATION

A. Date of Initial Classification: _____/_____/_____

B. Initial Classification Level:

☐ Class 1 ☐ Class 2 ☐ Class 3 ☐ Class 4

C. Date of Most Recent Reclassification *(if any)*: _____/_____/_____

D. Most Recent Reclassification Level:

☐ Class 1 ☐ Class 2 ☐ Class 3 ☐ Class 4

E. Briefly describe the justification for any reclassifications: _____

3.6 TIERED EVALUATIONS AND CLEANUP GOALS

A. What levels of evaluation were performed for this site?
(*Check all that apply*)

☒ Tier I ☐ Tier II ☐ Tier III

B. If a Tier II or Tier III evaluation was performed, describe the most significant alternate assumptions, models, or site-specific information used in place of the default assumptions, models, or model parameters: N.A.

K00004123

C. What was the ultimate basis for the cleanup goals established for this facility? *(Check only those that apply)*

	ON-SITE			OFF-SITE		
	Soil	Groundwater	Other Media	Soil	Groundwater	Other Media
RESIDENTIAL	☒Tier I ☐Tier II ☐Tier III	☒Tier I ☐Tier II ☐Tier III	☐Tier II ☐Tier III	☐Tier I ☐Tier II ☐Tier III	☐Tier I ☐Tier II ☐Tier III	☐Tier II ☐Tier III
COMMERCIAL III	☐Tier I ☐Tier II ☐Tier III	☐Tier I ☐Tier II ☐Tier III	☐Tier II ☐Tier III	☐Tier I ☐Tier II ☐Tier III	☐Tier I ☐Tier II ☐Tier III	☐Tier II ☐Tier III
COMMERCIAL IV	☐Tier I ☐Tier II ☐Tier III	☐Tier I ☐Tier II ☐Tier III	☐Tier II ☐Tier III	☐Tier I ☐Tier II ☐Tier III	☐Tier I ☐Tier II ☐Tier III	☐Tier II ☐Tier III
INDUSTRIAL	☐Tier I ☐Tier II ☐Tier III	☐Tier I ☐Tier II ☐Tier III	☐Tier II ☐Tier III	☐Tier I ☐Tier II ☐Tier III	☐Tier I ☐Tier II ☐Tier III	☐Tier II ☐Tier III

NOTE: If the site meets the Tier I criteria without any corrective action and the release was *de minimus*, complete Sections 4.1, 4.2 and the Cover Sheet Certification

3.7 PUBLIC NOTICE

If implementation of the corrective action plan will result in anything other than unrestricted land use or unlimited resource use, notice must be provided to the public directly impacted by the release and the planned corrective action.

A. Will implementation of the corrective action plan result in any restrictions to land use or limitations on resource use? ☐ Yes ☐ No

If "No", skip to Section 3.9; if "Yes", continue with question "B" below.

B. Describe all land use or resource use limitations associated with the implemented corrective action: _____

_____
_____
_____
_____
_____

C. Was USTD guidance used to establish the form and content of the Public Notice ? *(See Attachment No. 20 to the "Guidance Document for Risk-Based Corrective Action at Leaking Underground Storage Tanks".)* ☐ Yes ☐ No

D. If "No", provide an explanation: _____

_____
_____
_____

E. Attach a copy of the public notification document(s) used to provide the required public notice. *(Include as Attachment No. 2.)*

F. Identify the individuals or segments of the public that were provided notice of the proposed land use restrictions or limitations to be placed on resource use: _____

_____

_____

_____

G. Describe the mechanism(s) by which the directly impacted public was notified:_____

_____

_____

_____

3.8 NOTICE OF CORRECTIVE ACTION, DECLARATION OF RESTRICTIVE COVENANT, AND OTHER RESTRICTIVE MECHANISMS

If the corrective action depends on the use of institutional controls or other land use restrictions, a Notice of Corrective Action (for corrective actions based on Tier I clean-up criteria with institutional controls or land use restrictions) or a Declaration of Restrictive Covenant (for corrective actions based on Tier II or III clean-up criteria with institutional controls or land use restrictions) must be recorded with the Register of Deeds for the County in which the site is located.

A. Does the corrective action depend on the use of institutional controls or other land use or resource use restrictions? ☐ Yes ☐ No

If "No", skip to Section 3.9; if "Yes", continue with question "B" below.

B. Was a Notice of Corrective Action as defined in Section 324.21310a(1) required as part of the corrective action? ☐ Yes ☐ No

If "No", skip to question "P"; if "Yes", continue with question "C" below.

C. Was USTD guidance used to establish the form and content of the notice? *(See Attachment No. 20 to the "Guidance Document for Risk-Based Corrective Action at Leaking Underground Storage Tanks").* ☐ Yes ☐ No

D. If "No", provide an explanation:_____

_____

_____

_____

_____

_____

CLOSURE REPORT (Continued)

E. Date the Notice of Corrective Action was submitted to the USTD for approval: ____/____/____

F. Date of USTD approval of the Notice of Corrective Action: ____/____/____

G. Was the Notice of Corrective Action recorded with the Register of Deeds for the County in which the site is located? ☐ Yes ☐ No

H. If "No", provide an explanation; **then skip to question "P":**_____

_____

_____

_____

If "Yes", provide the following:

I. Date Recorded: ____/____/____

J. County Where Site is Located: _____

K. Register of Deeds Contact Name: _____

L. Register of Deeds Telephone No.: _____

M. Person Filing: _____

N. Is the person filing the property owner? ☐ Yes ☐ No

O. If "No", attach a copy of the written permission for the filing from the property owner. *(Include as Attachment No. 3.)*

P. Was a Restrictive Covenant as defined in Section 324.21310a(2) required as part of the Corrective Action? ☐ Yes ☐ No

If "No", skip to question "II"; if "Yes", continue with question "Q" below.

Q. Was USTD guidance used to establish the form and content of the Declaration of Restrictive Covenant? *(See Attachment No. 20 to the "Guidance Document for Risk-Based Corrective Action at Leaking Underground Storage Tanks".)* ☐ Yes ☐ No

R. If "No", provide an explanation:_____

_____

_____

_____

_____

S. Date the Declaration of Restrictive Covenant was submitted to the USTD: ____/____/____

T. Date of USTD approval of the Declaration of Restrictive Covenant: ____/____/____

3.8 NOTICE OF CORRECTIVE ACTION, DECLARATION OF RESTRICTIVE COVENANT, AND OTHER RESTRICTIVE MECHANISMS (Continued)

K00004126

CLOSURE REPORT (Continued)

U. Was the Declaration of Restrictive Covenant recorded with the Register of Deeds for the County in which the site is located? ☐ Yes ☐ No

V. If "No", provide an explanation: _____

_____

_____

_____

_____

If "Yes", provide the following:

W. Date Recorded: ____/____/____

X. County Where Site is Located: _____

Y. Register of Deeds Contact Name: _____

Z. Register of Deeds Telephone Number: _____

AA. Person Filing: _____

BB. Is the person filing the property owner? ☐ Yes ☐ No

CC. If "No", attach a copy of the written permission for the filing from the property owner. *(Include as Attachment No. 4.)*

Does the restrictive covenant include:

DD. Provisions that the restrictions run with the land? ☐ Yes ☐ No

EE. Provisions that restrictions are binding on the owner's successors, assigns, and lessees? ☐ Yes ☐ No

FF. Provisions that restrictions are binding until the USTD determines that the regulated substances no longer present an unacceptable risk? ☐ Yes ☐ No

GG. A survey and description of the property addressed by the corrective action plan? ☐ Yes ☐ No

HH. The scope of any land use or resource use restrictions? ☐ Yes ☐ No

II. Was an alternate mechanism to restrict exposure to regulated substances as defined in Section 324.21310a(3) associated with the Corrective Action? ☐ Yes ☐ No

If "No", skip to Section 3.9; if "Yes", continue with question "JJ" below.

JJ. Describe the alternate restrictive mechanism(s) associated with the corrective action. *(Check all that apply):*

☐ Ordinance prohibiting certain activities to control exposures to regulated substances. *(Specify the prohibited activity):* _____

_____

_____

_____

3.8 NOTICE OF CORRECTIVE ACTION, DECLARATION OF RESTRICTIVE COVENANT, AND OTHER RESTRICTIVE MECHANISMS (Continued)

K00004127

☐ Other mechanism. *(Describe):* _____

_____
_____
_____

KK. Date other restrictive mechanism(s) was submitted to USTD for approval: _____/_____/_____

LL. Date of USTD approval of the alternative restrictive mechanism: _____/_____/_____

3.9 PERMITS

A. List all discharge permits required for the corrective action:

Type of Permit	Permit No.	Application Date	Approval Date

3.10 CORRECTIVE ACTIONS

A. Description of activities performed: _____
_____
_____
_____
_____

B. Was the corrective action implemented as outlined in the Corrective Action Plan section of the Final Assessment Report? ☐ Yes ☐ No

C. If "No", summarize the changes and provide justification for why these changes were necessary. (*Attach additional sheets, if necessary*): _____
_____
_____
_____
_____

3.11 PERFORMANCE MONITORING

K00004128

A. Date Performance Monitoring Began: _____/_____/_____
B. Date Performance Monitoring Completed: _____/_____/_____

C. Describe the types of monitoring activities performed, and the media and parameters monitored:

4.0 CLOSURE VERIFICATION SAMPLING

A. Date Corrective Action Plan Implemented: ____/____/____
B. Date Corrective Actions Completed: ____/____/____

4.1 VERIFICATION OF SOIL REMEDIATION

A. Was the MDEQ guidance document "Verification of Soil Remediation Guidance Document" (Attachment No. 25 of the "Guidance Document for Risk-Based Corrective Action at Leaking Underground Storage Tanks") used to prepare the soil verification sampling plan?
☒ Yes ☐ No

B. If "No", provide an explanation:

C. If "Yes", under what category did the site fall? ☒ "Small Site" ☐ "Medium or Large Site"

D. Describe the soil verification sampling strategy applied at the site by providing the following. *(Attach additional sheets, as necessary)*:

- Scaled site map (Attachment No. 5) which identifies the former extent of the soil contamination, and the soil verification sampling locations relative to existing site features. *(Multiple chemical contaminants and multiple sample depths should be addressed on the minimum number of site maps needed to convey the information with clarity and legibility).*

- For a corrective action involving excavation, a scaled drawing(s) (Attachment No. 6) showing the floor and walls of the excavation and the associated sampling locations. The drawing should also depict the subsurface stratigraphy, soil types, fractures, discolored soil locations, and adjoining conduits or potential migration pathways, as appropriate.

E. Describe how the number of samples collected for soil verification purposes was established:
A biased sampling strategy in accordance with the Guidance Document-Verification of Soil Remediation was used to collect sidewall samples. The total area of the sidewall is 420 sq.ft. (less than 500 sq.ft.) and therefore a total of four (4) sidewall samples were collected. Since groundwater covered the excavation floor, one (1) groundwater sample was also collected for analysis. Since the soils were predominantly medium to large grain size, sidewall samples were collected near the excavation floor (just above the water table).

K00004129

F. List the analytical parameters used to verify the soil remediation: Benzene, Toluene, Ethylbenzene, and Xylene(s) (BTEX) and Methyl Tertiary Butyl Ether (MTBE) because the product stored in the underground storage tank

(UST), and understood to be the only substance ever stored in the UST, was unleaded gasoline.

G. Were all soil verification samples analyzed, preserved, and handled in accordance with the USTD guidance document entitled "Guidance for Parameters, Analytical Methods, Sample Handling, Quality Control, and Cleanup Limits for Petroleum Hydrocarbon Releases" (Attachment No. 12 of the "Guidance Document for Risk-Based Corrective Action at Leaking Underground Storage Tanks")? ☒ Yes ☐ No

H. If "No", provide an explanation for any differences: _____

I. Attach data tables presenting the analytical results of all on-site and off-site soil verification sampling performed in the attached Laboratory Results table format (Attachment No. 7). Include all pertinent sample results submitted previously with the Initial Assessment Report or Final Assessment Report. *(NOTE: The USTD may request copies of the laboratory data sheets, chain of custody forms, and all available QA/QC information relating to these verification samples.)*

J. Attach a Comparison Table for Soil Verification (Attachment No. 8) to demonstrate that the established target cleanup levels have been attained in accordance with the applicable MDEQ/USTD closure guidance.

K. Total volume of soil remediated or disposed to date: 15 yds^3

L. Disposal facility name(s) and location(s): C&C Landfill
14800 P Drive, North
Marshall, Michigan 49068

4.2 VERIFICATION OF GROUNDWATER REMEDIATION

A. Was the USTD "Groundwater and Soil Closure Guidance" (Attachment No. 26 of the "Guidance Document for Risk-Based Corrective Action at Leaking Underground Storage Tanks") used to prepare the groundwater verification sampling plan? ☐ Yes ☒ No

4.2 VERIFICATION OF GROUNDWATER REMEDIATION (Continued) K00004130

B. If "No", provide an explanation: Groundwater was encountered in the UST excavation. A groundwater sample was collected and analyzed for BTEX and MTBE. None of the target parameters were detected in the groundwater sample. Therefore it is presumed that groundwater has not been impacted by this deminimis spill. Also, since the soil samples are clean, groundwater has been eliminated as a pathway

CLOSURE REPORT (Continued)

Describe the groundwater verification sampling strategy applied at the site by answering questions "C" through "G". *(Attach additional sheets, as necessary):*

C. Attach a scaled site map (Attachment No. 9) that identifies the former extent of the groundwater contamination and the groundwater verification sampling locations relative to existing site features. *(Multiple chemical contaminants and multiple aquifer/sample depths should be addressed on the minimum number of site maps needed to convey the information with clarity and legibility.)*

D. Describe how the sampling frequency and duration of sampling used for groundwater verification purposes was established: N.A.

E. List the analytical parameters used to verify the groundwater remediation, and the justification for their selection: BTEX and MTBE. The subject 5000-gallon UST is understood to have only been utilized for the storage of unleaded gasoline.

F. Were all groundwater verification samples analyzed, preserved, and handled in accordance with the USTD guidance document entitled "Guidance for Parameters, Analytical Methods, Sample Handling, Quality Control, and Cleanup Limits for Petroleum Hydrocarbon Releases" (Attachment No. 12 of the "Guidance Document for Risk-based Corrective Action at Leaking Underground Storage Tanks")? ☒ Yes ☐ No

G. If "No", provide an explanation for any differences:

H. Attach data tables presenting the analytical results of all on-site and off-site groundwater verification sampling performed in the attached Laboratory Results table format (Attachment No. 10). Include applicable sample results submitted previously with the Initial Assessment Report or Final Assessment Report. *(NOTE: The USTD may request copies of laboratory data sheets, chain of custody forms, and all available QA/QC information relating to these verification samples.)*

I. Attach a Comparison Table for Groundwater Verification (Attachment No. 11) to demonstrate that the established target cleanup levels have been attained in accordance with the applicable MDEQ /USTD closure guidance.

4.2 VERIFICATION OF GROUNDWATER REMEDIATION (Continued)

For corrective actions involving the operation of a groundwater treatment system, answer questions "J" through "N". Otherwise, skip to question "O".

K00004131

CLOSURE REPORT (Continued)

J. Were the target cleanup levels met for six consecutive months *(minimum of two quarterly samplings)* with the treatment system operating? ☐ Yes ☐ No

K. If "No", provide an explanation:_____

L. Were the sample results from all wells used for verification at or below the target cleanup levels for a full year (*minimum of four quarterly samplings*) after the remedial system was turned off? ☐ Yes ☐ No

M. If "No", provide an explanation: _____

For corrective actions where no groundwater remediation was required, answer questions "O" through "P". Otherwise, skip to Section 4.3.

N. Total volume of groundwater remediated to date: 0 gallons

O. Were the target cleanup levels met for at least one sampling event? ☒ Yes ☐ No

P. If "No", provide an explanation:_____

4.3 VERIFICATION OF REMEDIATION FOR OTHER MEDIA

A. Was the corrective action for this site implemented for any media other than soil or groundwater? ☐ Yes ☐ No

4.3 VERIFICATION OF REMEDIATION FOR OTHER MEDIA (Continued)

If "Yes", continue with questions "B" through "J" answering each question in the series for each of the other environmental media remediated. If "No", complete the Cover Sheet Certification and quit.

K00004132

B. What other environmental media were remediated as part of this corrective action? *(Check all that apply):*

☐ Air ☐ Sediments ☐ Other *(Specify)*:
☐ Surface Water ☐ Biota _____

Describe the verification sampling strategy applied at the site by providing the following information pertaining to each of the other media remediated. *(Attach additional sheets, as necessary.)*

C. Provide a scaled site or area map (Attachment No. 12) which identifies the former extent of the contamination in each of these other media and the verification sampling locations relative to existing site features and boundaries. *(Multiple chemical contaminants should be addressed on the minimum number of site or area maps needed to convey the information with clarity and legibility.)*

D. Describe how the sampling frequency and duration of sampling used for verification purposes in each of these other media was established:_____

_____
_____
_____
_____
_____

E. List the analytical parameters used to verify the specified remediation in each of these other media, and the justification for their selection: _____

_____
_____
_____
_____
_____

F. Were all verification samples associated with each of these other media analyzed, preserved, and handled in accordance with the USTD guidance document entitled "Guidance for Parameters, Analytical Methods, Sample Handling, Quality Control, and Cleanup Limits for Petroleum Hydrocarbon Releases" (Attachment No. 12 of the "Guidance Document for Risk-Based Corrective Action at Leaking Underground Storage Tanks" to the maximum extent possible)? ☐ Yes ☐ No

G. If "No", provide an explanation for any differences:_____

_____
_____
_____

4.3 VERIFICATION OF REMEDIATION FOR OTHER MEDIA (Continued)

K00004133

H. Attach data tables presenting the results of all on-site and off-site verification sampling performed for each of these other media in the attached Laboratory Results table format (Attachment No. 13). Include applicable sample results submitted previously with the Initial Assessment Report or Final Assessment Report. *(NOTE: The USTD may request copies of laboratory data sheets, chain of custody forms, and all available QA/QC information relating to these verification samples.)*

CLOSURE REPORT (Continued)

I. Attach a Verification Comparison Table for each of the other remediated media (Attachment No. 14) to demonstrate that the established target cleanup levels have been attained in accordance with the applicable MDEQ /USTD closure guidance.

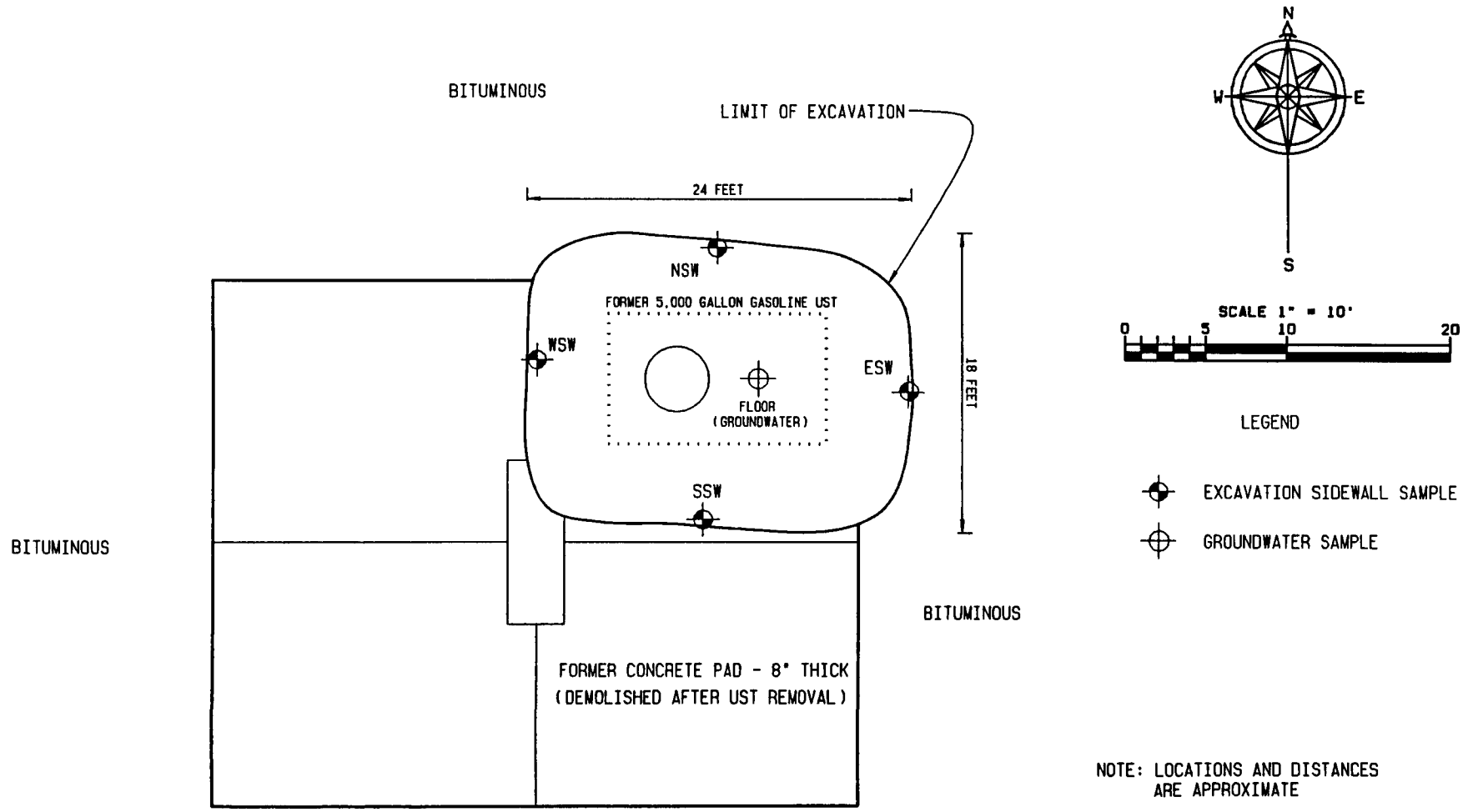
J. Estimated volume of each of the other specified media remediated, or treated or disposed to date *(specify units)*:_____

K00004134

ATTACHMENT 5

SERVICE CENTER

PLAN 1
SITE MAP
CONSUMERS POWER COMPANY
ALLEGAN SERVICE CENTER
670 GRAND STREET
ALLEGAN, MICHIGAN



NOTE: LOCATIONS AND DISTANCES ARE APPROXIMATE

WILKINS & WHEATON ENVIRONMENTAL SERVICES, INC.

K000004136

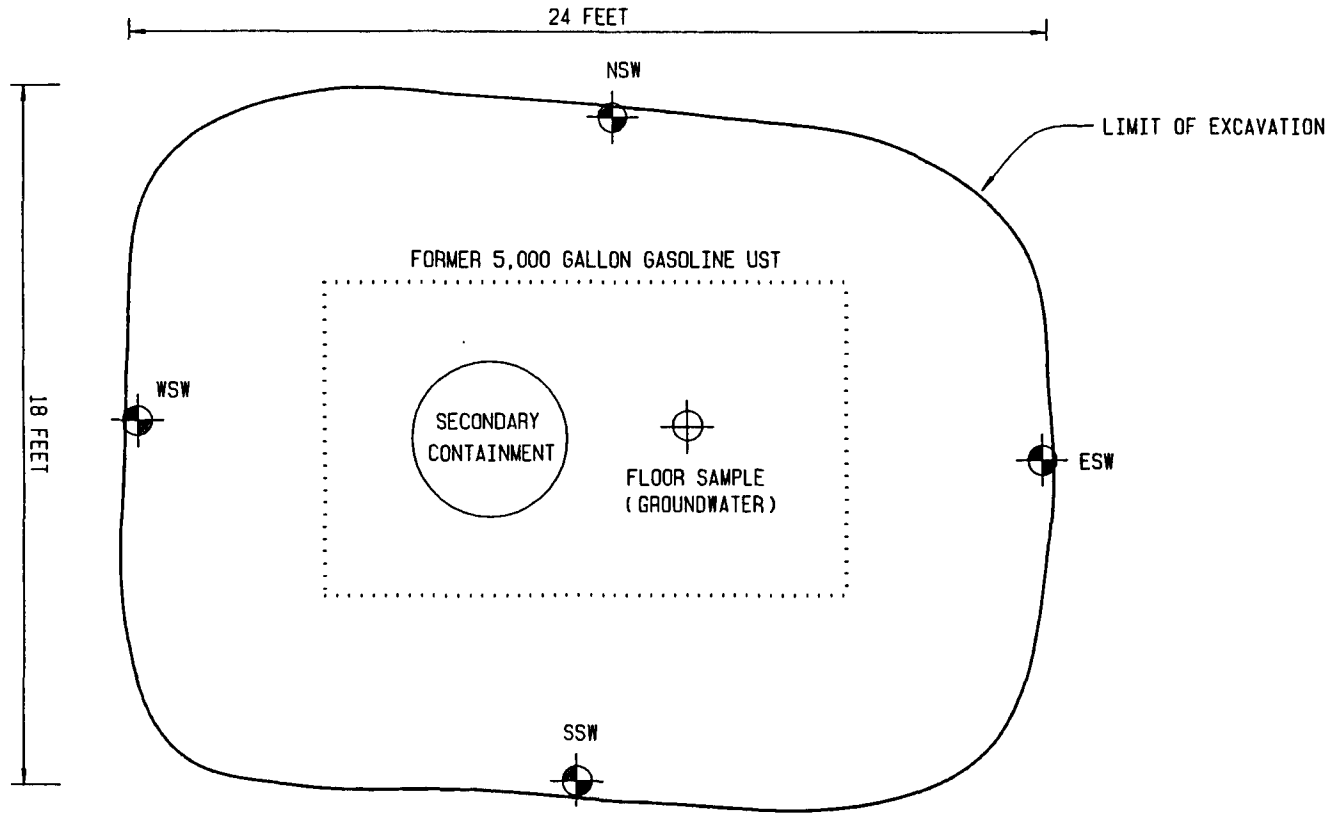
12/08/95

FILENAME: CONSMUST - CP

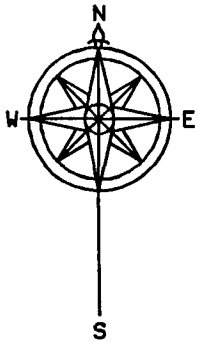
ATTACHMENT 6

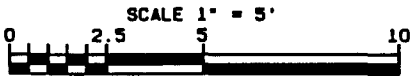
PLAN 2
SOIL VERIFICATION SAMPLING LOCATIONS
CONSUMERS POWER COMPANY
ALLEGAN SERVICE CENTER
670 GRAND STREET
ALLEGAN, MICHIGAN

NOTE: GROUNDWATER WAS ENCOUNTERED AT APPROXIMATELY 5 FEET BELOW GROUND LEVEL AND A SAMPLE WAS COLLECTED



FORMER CONCRETE PAD - 8" THICK
(DEMOLISHED AFTER UST REMOVAL)





LEGEND

EXCAVATION SIDEWALL SAMPLE

GROUNDWATER SAMPLE

TOTAL AREA OF EXCAVATION SIDEWALLS IS 420 SQUARE FEET

NOTE: LOCATIONS AND DISTANCES ARE APPROXIMATE

WILKINS & WHEATON ENVIRONMENTAL SERVICES, INC.

12/08/95

FILENAME: CPUSTSAM - CP

K0000413 8

ATTACHMENT 7

ATTACHMENT NO. 7
SOIL VERIFICATION SAMPLING RESULTS (LABORATORY)
FACILITY NAME Consumers Power Company
FACILITY NUMBER 0-017374

VOLATILES										
Sample ID	East Sidewall		West Sidewal		Nor. Sidewall		So.Sidewall			
Sample Depth (feet BGS)	5 feet		5 feet		5 feet		5 feet			
Date Collected	11-07-1995		11-07-1995		11-07-1995		11-07-1995			
Date Extracted										
Date Analyzed	11-10-1995		11-10-1995		11-10-1995		11-10-1995			
Analytical Method No.	8021A		8021A		8021A		8021A			
Collection Method*	GS		GS		GS		GS			
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☒ Benzene	ND	10	ND	10	ND	10	ND	10		
☒ Toluene	ND	10	ND	10	ND	10	ND	10		
☒ Ethylbenzene	ND	10	ND	10	ND	10	ND	10		
☒ Total Xylenes	ND	10	ND	10	ND	10	ND	10		
☒ MTBE	ND	100	ND	100	ND	100	ND	100		
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method*										
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Acenaphthene										
☐ Acenaphthylene										
☐ Anthracene										
☐ Benzo(a)anthracene										
☐ Benzo(a)pyrene										
☐ Benzo(b)fluoranthene										
☐ Benzo(g,h,i)perylene										
☐ Benzo(k)fluoranthene										

K0000414 0

ATTACHMENT NO. 7 (CONTINUED) PAGE 2 OF 4
SOIL VERIFICATION SAMPLING RESULTS (LABORATORY)
FACILITY NAME _____
FACILITY NUMBER _____

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method*										
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Chrysene										
☐ Dibenzo(a,h)anthracene										
☐ Fluoranthene										
☐ Fluorene										
☐ Indeno(1,2,3- cd)pyrene										
☐ Naphthalene										
☐ Phenanthrene										
☐ Pyrene										
METALS										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method*										
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Cadmium										
☐ Chromium III										
☐ Chromium VI										
☐ Total Lead										

BGS = Below Ground Surface
* Collection Method Codes *(List all that apply)*: Grab Sample (GS), Split Spoon (SS), Hand Auger (HA), Geoprobe (GP), Continuous Corer (CC), Soil Gas (SG), Cone Penetrometer (CP), Hydropunch (HP)
If Other (OT), specify here: _____
MDL = Method Detection Limit

K00004141

ATTACHMENT NO. 7 (CONTINUED) PAGE 3 OF 4
SOIL VERIFICATION SAMPLING RESULTS (LABORATORY)
FACILITY NAME_____
FACILITY NUMBER_____

PCBs										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method*										
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Aroclor 1016										
☐ Aroclor 1221										
☐ Aroclor 1232										
☐ Aroclor 1242										
☐ Aroclor 1248										
☐ Aroclor 1254										
☐ Aroclor 1280										
HALOGENATED HYDROCARBONS										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method*										
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Carbon Tetrachloride										
☐ 1,1-Dichloroethane										
☐ 1,2-Dichloroethane										
☐ 1,1-Dichloroethylene										

BGS = Below Ground Surface
* Collection Method Codes *(List all that apply)*: Grab Sample (GS), Split Spoon (SS), Hand Auger (HA), Geoprobe (GP), Continuous Corer (CC), Soil Gas (SG), Cone Penetrometer (CP), Hydropunch (HP)
If Other (OT), specify here: _____
MDL = Method Detection Limit

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ATTACHMENT NO. 7 (CONTINUED) PAGE 4 OF 4
SOIL VERIFICATION SAMPLING RESULTS (LABORATORY)
FACILITY NAME_____
FACILITY NUMBER_____

HALOGENATED HYDROCARBONS										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method*										
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ cis-1,2-Dichloroethylene										
☐ trans-1,2-Dichloroethylene										
☐ Tetrachloroethylene										
☐ 1,1,2-Trichloroethane										
OTHER *(Specify)*										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method*										
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐										
☐										
☐										
☐										
☐										
☐										

BGS = Below Ground Surface
* Collection Method Codes *(List all that apply)*: Grab Sample (GS), Split Spoon (SS), Hand Auger (HA), Geoprobe (GP), Continuous Corer (CC), Soil Gas (SG), Cone Penetrometer (CP), Hydropunch (HP)
If Other (OT), specify here: _____
MDL = Method Detection Limit

K00004143

ATTACHMENT 8

CLOSURE ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 8

COMPARISON TABLE FOR SOIL VERIFICATION

FACILITY NAME Consumers Power Company

FACILITY NUMBER 00-017374

Contaminant	Number of Samples Taken	Range of Detected Concentrations [Min - Max] (ug/kg)	Maximum Detected (ug/kg)	Applicable RBSL or SSTL Criterion *[Specify Tier Level in ( )]* (ug/kg)		
				Residential	☐ Commercial III ☐ Commercial IV	Industrial
VOLATILES						
☒ Benzene	4	ND -- ND	ND	100 (I)	( )	( )
☒ Toluene	4	ND -- ND	ND	16000 (I)	( )	( )
☒ Ethylbenzene	4	ND -- ND	ND	4700 (I)	( )	( )
☒ Total Xylenes	4	ND -- ND	ND	74000 (I)	( )	( )
☒ MTBE	4	ND -- ND	ND	4800 (I)	( )	( )
POLYNUCLEAR AROMATICS (PNAs)						
☐ Acenaphthene		--		( )	( )	( )
☐ Acenaphthylene						
☐ Anthracene		--		( )	( )	( )
☐ Benzo(a)anthracene		--		( )	( )	( )
☐ Benzo(a)pyrene		--		( )	( )	( )
☐ Benzo(b)fluoranthene		--		( )	( )	( )
☐ Benzo(g,h,i)perylene						
☐ Benzo(k)fluoranthene		--		( )	( )	( )
☐ Chrysene		--		( )	( )	( )
☐ Dibenzo(a,h)anthracene		--		( )	( )	( )
☐ Fluoranthene		--		( )	( )	( )
☐ Fluorene		--		( )	( )	( )
☐ Indeno(1,2,3-cd)pyrene		--		( )	( )	( )
☐ Naphthalene		--		( )	( )	( )
☐ Phenanthrene						
☐ Pyrene		--		( )	( )	( )
METALS						
☐ Cadmium		--		( )	( )	( )
☐ Chromium III		--		( )	( )	( )
☐ Chromium VI		--		( )	( )	( )
☐ Total Lead		--		( )	( )	( )

K0000 4145

CLOSURE ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 8 (CONTINUED) PAGE 2 OF 2

COMPARISON TABLE FOR SOIL VERIFICATION

FACILITY NAME_____

FACILITY NUMBER_____

Contaminant	Number of Samples Taken	Range of Detected Concentrations [Min - Max] (ug/kg)	Maximum Detected (ug/kg)	Applicable RBSL or SSTL Criterion *[Specify Tier Level in ( )]* (ug/kg)		
				Residential	☐ Commercial III ☐ Commercial IV	Industrial
PCBs						
☐ Aroclor 1016		--		( )	( )	( )
☐ Aroclor 1221		--		( )	( )	( )
☐ Aroclor 1232		--		( )	( )	( )
☐ Aroclor 1242		--		( )	( )	( )
☐ Aroclor 1248		--		( )	( )	( )
☐ Aroclor 1254		--		( )	( )	( )
☐ Aroclor 1280		--		( )	( )	( )
HALOGENATED HYDROCARBONS						
☐ Carbon Tetrachloride		--		( )	( )	( )
☐ 1,1-Dichloroethane		--		( )	( )	( )
☐ 1,2-Dichloroethane		--		( )	( )	( )
☐ 1,1-Dichloroethylene		--		( )	( )	( )
☐ cis-1,2-Dichloroethylene		--		( )	( )	( )
☐ trans-1,2-Dichloroethylene		--		( )	( )	( )
☐ Tetrachloroethylene		--		( )	( )	( )
☐ 1,1,2-Trichloroethane						
OTHER*						
		--		( )	( )	( )
		--		( )	( )	( )
		--		( )	( )	( )
		--		( )	( )	( )
		--		( )	( )	( )
		--		( )	( )	( )
		--		( )	( )	( )

*List additional contaminants as appropriate

K00004146

ATTACHMENT 10

CLOSURE ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 10

GROUNDWATER VERIFICATION SAMPLING RESULTS (LAB)

FACILITY NAME Consumers Power Company

FACILITY NUMBER 0-017374

VOLATILES										
Sample ID	Exca. Water									
Sample Depth (feet BGS)	5-8 feet									
Date Collected	11-07-1995									
Date Extracted										
Date Analyzed	11-14-1995									
Collection Method*	GS									
Analytical Method No.	8021A									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☒ Benzene	ND	5								
☒ Toluene	ND	1								
☒ Ethylbenzene	ND	1								
☒ Total Xylenes	ND	1								
☒ MTBE	ND	50								
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Acenaphthene										
☐ Acenaphthylene										
☐ Anthracene										
☐ Benzo(a)anthracene										
☐ Benzo(a)pyrene										
☐ Benzo(b)fluoranthene										
☐ Benzo(g,h,i)perylene										
☐ Benzo(k)fluoranthene										
☐ Chrysene										
☐ Dibenzo(a,h)anthracene										

K0000414B

CLOSURE REPORT (Continued)

ATTACHMENT NO. 10 (CONTINUED) PAGE 2 OF 4
GROUNDWATER VERIFICATION SAMPLING RESULTS (LAB)
FACILITY NAME_____
FACILITY NUMBER_____

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Fluoranthene										
☐ Fluorene										
☐ Indeno(1,2,3- cd)pyrene										
☐ Naphthalene										
☐ Phenanthrene										
☐ Pyrene										
METALS - FILTERED										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Cadmium										
☐ Chromium III										
☐ Chromium VI										
☐ Total Lead										

K00004149

** List additional contaminants as appropriate*

CLOSURE REPORT (Continued)

ATTACHMENT NO. 10 (CONTINUED) PAGE 3 OF 4
GROUNDWATER VERIFICATION SAMPLING RESULTS (LAB)
FACILITY NAME_____
FACILITY NUMBER_____

PCBs										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Aroclor 1016										
☐ Aroclor 1221										
☐ Aroclor 1232										
☐ Aroclor 1242										
☐ Aroclor 1248										
☐ Aroclor 1254										
☐ Aroclor 1280										
HALOGENATED HYDROCARBONS										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Carbon Tetrachloride										
☐ 1,1-Dichloroethane										
☐ 1,2-Dichloroethane										
☐ 1,1-Dichloroethylene										
☐ cis-1,2-Dichloroethylene										
☐ trans-1,2- Dichloroethylene										

K0000415 0

** List additional contaminants as appropriate*

CLOSURE REPORT (Continued)

ATTACHMENT NO. 10 (CONTINUED) PAGE 4 OF 4
GROUNDWATER VERIFICATION SAMPLING RESULTS (LAB)
FACILITY NAME_____
FACILITY NUMBER_____

DUPLICATE TABLE AS NEEDED

HALOGENATED HYDROCARBONS										
☐ Tetrachloroethylene										
☐ 1,1,2-Trichloroethane										
OTHER *(Specify)*										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐										
☐										
☐										
☐										
☐										
☐										
☐										
☐										
☐										
☐										
☐										
☐										
☐										
☐										
☐										
☐										
☐										

K000041151

** List additional contaminants as appropriate*

ATTACHMENT 11

CLOSURE REPORT (Continued)

ATTACHMENT NO. 11
COMPARISON TABLE FOR GROUNDWATER VERIFICATION
FACILITY NAME Consumers Power Company
FACILITY NUMBER 0-017374

Contaminant	Number of Samples Taken	Sampling Frequency	Sampling Duration (months)	Range of Detected Concentrations for 6 Consecutive Months with Treatment System Operating [Min - Max] (ug/l)	Range of Detected Concentrations for 12 Months Following Treatment System Shutdown or With No Treatment [Min - Max] (ug/l)	Applicable RBSL or SSTL Criterion *[Specify Tier Level in ()]* (ug/l)		
						Residential	Commercial	Industrial
VOLATILES								
☒ Benzene	1	NA	NA	–	ND – ND	5 (1)	( )	( )
☒ Toluene	1	NA	NA	–	ND – ND	790 (1)	( )	( )
☒ Ethylbenzene	1	NA	NA	–	ND – ND	74 (1)	( )	( )
☒ Total Xylenes	1	NA	NA	–	ND – ND	280 (1)	( )	( )
☒ MTBE	1	NA	NA	–	ND – ND	240 (1)	( )	( )
POLYNUCLEAR AROMATICS (PNAs)								
☐ Acenaphthene				–	–	( )	( )	( )
☐ Acenaphthylene								
☐ Anthracene				–	–	( )	( )	( )
☐ Benzo(a)anthracene				–	–	( )	( )	( )
☐ Benzo(a)pyrene				–	–	( )	( )	( )
☐ Benzo(b)fluoranthene				–	–	( )	( )	( )
☐ Benzo(g,h,i)perylene								
☐ Benzo(k)fluoranthene				–	–	( )	( )	( )
☐ Chrysene				–	–	( )	( )	( )
☐ Dibenzo(a,h)anthracene				–	–	( )	( )	( )
☐ Fluoranthene				–	–	( )	( )	( )
☐ Fluorene				–	–	( )	( )	( )
☐ Indeno(1,2,3-cd)pyrene				–	–	( )	( )	( )
☐ Naphthalene				–	–	( )	( )	( )
☐ Phenanthrene								
☐ Pyrene				–	–	( )	( )	( )
METALS - FILTERED								
☐ Cadmium				–	–	( )	( )	( )
☐ Chromium III				–	–	( )	( )	( )
☐ Chromium VI				–	–	( )	( )	( )
☐ Total Lead				–	–	( )	( )	( )

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* *List additional contaminants as appropriate*

CLOSURE REPORT (Continued)

ATTACHMENT NO. 11 (CONTINUED) PAGE 2 OF 2
COMPARISON TABLE FOR GROUNDWATER VERIFICATION
FACILITY NAME_____
FACILITY NUMBER_____

Contaminant	Number of Samples Taken	Sampling Frequency	Sampling Duration (months)	Range of Detected Concentrations for 6 Consecutive Months with Treatment System Operating [Min - Max] (ug/l)	Range of Detected Concentrations for 12 Months Following Treatment System Shutdown or With No Treatment [Min - Max] (ug/l)	Applicable RBSL or SSTL Criterion *[Specify Tier Level in ()]* (ug/l)		
						Residential	Commercial	Industrial
PCBs								
☐ Aroclor 1016				--	--	( )	( )	( )
☐ Aroclor 1221				--	--	( )	( )	( )
☐ Aroclor 1232				--	--	( )	( )	( )
☐ Aroclor 1242				--	--	( )	( )	( )
☐ Aroclor 1248				--	--	( )	( )	( )
☐ Aroclor 1254				--	--	( )	( )	( )
☐ Aroclor 1280				--	--	( )	( )	( )
HALOGENATED HYDROCARBONS								
☐ Carbon Tetrachloride				--	--	( )	( )	( )
☐ 1,1-Dichloroethane				--	--	( )	( )	( )
☐ 1,2-Dichloroethane				--	--	( )	( )	( )
☐ 1,1-Dichloroethylene				--	--	( )	( )	( )
☐ cis-1,2-Dichloroethylene				--	--	( )	( )	( )
☐ trans-1,2-Dichloroethylene				--	--	( )	( )	( )
☐ Tetrachloroethylene				--	--	( )	( )	( )
☐ 1,1,2-Trichloroethane				--	--	( )	( )	( )
OTHER*								
☐				--	--	( )	( )	( )
☐				--	--	( )	( )	( )
☐				--	--	( )	( )	( )
☐				--	--	( )	( )	( )
☐				--	--	( )	( )	( )
☐				--	--	( )	( )	( )

** List additional contaminants as appropriate*

K000041154

CLOSURE ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 13

OTHER MEDIA VERIFICATIONS SAMPLING RESULTS-LABORATORY

SPECIFY _____

FACILITY NAME _____

FACILITY NUMBER _____

VOLATILES										
Sample ID										
Sample Depth (feet BGS)*										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method**										
CONSTITUENT (Units=___)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Benzene										
☐ Toluene										
☐ Ethylbenzene										
☐ Total Xylenes										
☐ MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)*										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method**										
CONSTITUENT (Units=___)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Acenaphthene										
☐ Acenaphthylene										
☐ Anthracene										
☐ Benzo(a)anthracene										
☐ Benzo(a)pyrene										
☐ Benzo(b)fluoranthene										
☐ Benzo(g,h,i)perylene										
☐ Benzo(k)fluoranthene										

K000004155

BGS = Below Ground Surface

* If applicable

** Footnote and define all Collection Method Codes used in this table: _____

MDL = Method Detection Limit

ATTACHMENT NO. 13 (CONTINUED) PAGE 2 OF 4
OTHER MEDIA VERIFICATIONS SAMPLING RESULTS-LABORATORY
SPECIFY _____
FACILITY NAME _____
FACILITY NUMBER _____

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)*										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method**										
CONSTITUENT (Units= ___)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Chrysene										
☐ Dibenzo(a,h)anthracene										
☐ Fluoranthene										
☐ Fluorene										
☐ Indeno(1,2,3- cd)pyrene										
☐ Naphthalene										
☐ Phenanthrene										
☐ Pyrene										
METALS										
Sample ID										
Sample Depth (feet BGS)*										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method**										
CONSTITUENT (Units= ___)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Cadmium										
☐ Chromium III										
☐ Chromium VI										
☐ Total Lead										

BGS = Below Ground Surface
* If applicable
** Footnote and define all Collection Method Codes used in this table: _____
MDL = Method Detection Limit

K00004156

ATTACHMENT NO. 13 (CONTINUED) PAGE 3 OF 4
OTHER MEDIA VERIFICATIONS SAMPLING RESULTS-LABORATORY
*SPECIFY*_____
FACILITY NAME_____
FACILITY NUMBER_____

PCBs										
Sample ID										
Sample Depth (feet BGS)*										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method**										
CONSTITUENT (Units= ___)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Aroclor 1016										
☐ Aroclor 1221										
☐ Aroclor 1232										
☐ Aroclor 1242										
☐ Aroclor 1248										
☐ Aroclor 1254										
☐ Aroclor 1280										
HALOGENATED HYDROCARBONS										
Sample ID										
Sample Depth (feet BGS)*										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method**										
CONSTITUENT (Units= ___)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ Carbon Tetrachloride										
☐ 1,1-Dichloroethane										
☐ 1,2-Dichloroethane										
☐ 1,1-Dichloroethylene										

K0000415?

BGS = Below Ground Surface
* If applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

ATTACHMENT NO. 13 (CONTINUED) PAGE 4 OF 4
OTHER MEDIA VERIFICATION SAMPLING RESULTS-LABORATORY
*SPECIFY*_____
FACILITY NAME_____
FACILITY NUMBER_____

HALOGENATED HYDROCARBONS										
Sample ID										
Sample Depth (feet BGS)*										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method**										
CONSTITUENT (Units=___)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐ cis-1,2-Dichloroethylene										
☐ trans-1,2-Dichloroethylene										
☐ Tetrachloroethylene										
☐ 1,1,2-Trichloroethane										
OTHER *(Specify)*										
Sample ID										
Sample Depth (feet BGS)*										
Date Collected										
Date Extracted										
Date Analyzed										
Analytical Method No.										
Collection Method**										
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
☐										
☐										
☐										
☐										
☐										
☐										

BGS = Below Ground Surface
* If applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K000004158

ATTACHMENT NO. 14
COMPARISON TABLE FOR OTHER MEDIA VERIFICATION
FACILITY NAME _____
FACILITY NUMBER _____

Contaminant	Number of Samples Taken	Range of Detected Concentrations [Min - Max] (Units = _____)	Maximum Detected or 95% UCL on Mean Concentration (Units = _____)	Applicable SSTL Criterion *[Specify Tier Level in ()]* (Units = _____)		
				Residential	Commercial	Industrial
VOLATILES						
☐ Benzene		--		( )	( )	( )
☐ Toluene		--		( )	( )	( )
☐ Ethylbenzene		--		( )	( )	( )
☐ Total Xylenes		--		( )	( )	( )
☐ MTBE		--		( )	( )	( )
POLYNUCLEAR AROMATICS (PNAs)						
☐ Acenaphthene		--		( )	( )	( )
☐ Acenaphthylene						
☐ Anthracene		--		( )	( )	( )
☐ Benzo(a)anthracene		--		( )	( )	( )
☐ Benzo(a)pyrene		--		( )	( )	( )
☐ Benzo(b)fluoranthene		--		( )	( )	( )
☐ Benzo(g,h,i)perylene						
☐ Benzo(k)fluoranthene		--		( )	( )	( )
☐ Chrysene		--		( )	( )	( )
☐ Dibenzo(a,h)anthracene		--		( )	( )	( )
☐ Fluoranthene		--		( )	( )	( )
☐ Fluorene		--		( )	( )	( )
☐ Indeno(1,2,3-cd)pyrene		--		( )	( )	( )
☐ Naphthalene		--		( )	( )	( )
☐ Phenanthrene						
☐ Pyrene		--		( )	( )	( )
METALS						
☐ Cadmium		--		( )	( )	( )
☐ Chromium III		--		( )	( )	( )
☐ Chromium VI		--		( )	( )	( )
☐ Total Lead						

K0000041 59

CLOSURE ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 14 (CONTINUED PAGE 2 OF 2)

COMPARISON TABLE FOR OTHER MEDIA VERIFICATION

FACILITY NAME _____

FACILITY NUMBER _____

Contaminant	Number of Samples Taken	Range of Detected Concentrations [Min - Max] (Units = _____)	Maximum Detected or 95% UCL on Mean Concentration (Units = _____)	Applicable SSTL Criterion *[Specify Tier Level in ()]* (Units = _____)		
				Residential	Commercial	Industrial
PCBs						
☐ Aroclor 1016		--		( )	( )	( )
☐ Aroclor 1221		--		( )	( )	( )
☐ Aroclor 1232		--		( )	( )	( )
☐ Aroclor 1242		--		( )	( )	( )
☐ Aroclor 1248		--		( )	( )	( )
☐ Aroclor 1254		--		( )	( )	( )
☐ Aroclor 1280		--		( )	( )	( )
HALOGENATED HYDROCARBONS						
☐ Carbon Tetrachloride		--		( )	( )	( )
☐ 1,1-Dichloroethane		--		( )	( )	( )
☐ 1,2-Dichloroethane		--		( )	( )	( )
☐ 1,1-Dichloroethylene		--		( )	( )	( )
☐ cis-1,2-Dichloroethylene		--		( )	( )	( )
☐ trans-1,2-Dichloroethylene		--		( )	( )	( )
☐ Tetrachloroethylene		--		( )	( )	( )
☐ 1,1,2-Trichloroethane		--		( )	( )	( )
OTHER*						
☐		--		( )	( )	( )
☐		--		( )	( )	( )
☐		--		( )	( )	( )
☐		--		( )	( )	( )
☐		--		( )	( )	( )
☐		--		( )	( )	( )
☐		--		( )	( )	( )
☐		--		( )	( )	( )
☐		--		( )	( )	( )

*List additional contaminants as appropriate

K0000416O

EXHIBIT ~~1A~~ 2A

JANUARY 30, 1996

MDEQ CLOSURE CONFERENCE

K00004161

STATE OF MICHIGAN

JOHN ENGLER, Governor
DEPARTMENT OF ENVIRONMENTAL QUALITY
HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973
RUSSELL J. HARDING, Director

received
2/2/96

REPLY TO:
UNDERGROUND STORAGE TANK DIVISION
TOWN CENTER
PO BOX 30157
LANSING MI 48909-7657

January 30, 1996

Mr. Robert Neumann
Consumers Power Company
1945 W. Parnell Street
Jackson, MI 49201

Dear Mr. Neumann:

SUBJECT: Audit of Corrective Actions
Confirmed Release Date: November 7, 1995
Location of Tank(s): Consumers Power Service Center, 670 Grand Street, Allegan, Allegan County, Michigan
MERA Site ID #: 030006
MUSTFA Claim #: N/A
Facility ID #: 0-017374

Under the authority of Section 21315 of Part 213 Leaking Underground Storage Tanks (LUST) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), the Department of Environmental Quality (DEQ), Underground Storage Tank Division (USTD), has conducted an audit of the corrective actions undertaken by Wilkens and Wheaton Environmental Services, Inc., Qualified Underground Storage Tank Consultant (QC) as the result of a release from an underground storage tank system at the subject site. The audit consisted of a review of district file documents).

Based on this audit, the USTD agrees with the conclusion by the QC that corrective action at the site has resulted in UNRESTRICTED RESIDENTIAL USE of the site.

Please note that when contaminated soil and/or groundwater as a result of a release of a regulated substance remains on site consistent with site closure requirements, the owner/operator shall not remove soil and/or groundwater, or allow soil and/or groundwater to be removed from the site to an off-site location without properly characterizing the soils and/or groundwater to determine that the soils and/or groundwater can be lawfully relocated without posing a threat to the public health safety, or welfare, or the environment. The determination shall consider whether the soil and/or groundwater is subject to regulations under Part 111 of Act 451.

If you have any questions, please contact Mr. Tim Hauck, Project Manager, at the Plainwell District Office, Department of Environmental Quality, Underground Storage Tank Division, 1342 SR-89 West, Suite B, Plainwell, Michigan, or at telephone number 616-692-2687.

Sincerely,

Liane J. Shekter Smith
District Supervisor
Plainwell District Office
Underground Storage Tank Division
616-692-2686

LJSS/pd

cc: Mr. Grant Kolb, Wilkens and Wheaton Environmental Services, Inc.
Sedgwick James of Michigan, Inc.
Mr. Mohammad Yusaf, DEQ
Mr. Tim Hauck, DEQ

ALLEGAN SERVICE CENTER

EXHIBIT 3

JUNE 2003

PROGRESS REPORT

FIRST QUARTER 2003

ALLEGAN SERVICE CENTER

ALLEGAN, MICHIGAN

(FORMER 10,000 GALLON GASOLINE UST)

K00004164

PROGRESS REPORT
FIRST QUARTER 2003

CONSUMERS ENERGY
ALLEGAN SERVICE CENTER
ALLEGAN, MICHIGAN

June 2003

97603K

K00004165

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- 2.1 Monitoring Well Sampling 3
- 2.2 Groundwater Elevation and Flow Direction 4
- 2.3 VOC Concentrations 5
- 2.4 Chemical Oxygen Demand 7
- 2.5 Dissolved Lead Concentrations 8

3.0 DATA INTERPRETATION 9

- 3.1 Status of Cleanup 9

APPENDIX I SITE LOCATION DIAGRAM

APPENDIX II TABLES

- Table A - Analysis of Quarterly Monitoring Data
- Table B - Historical Analysis of Quarterly Monitoring Data Monitoring Wells on Consumers Energy property
- Table C - Historical Analysis of Quarterly Monitoring Data Monitoring Wells on TruHeat Corporation property

APPENDIX III VERTICAL COMPONENT OF FLOW CALCULATIONS

APPENDIX IV LABORATORY ANALYTICAL RESULTS

DEQ

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY – REMEDIATION & REDEVELOPMENT DIVISION
PO BOX 30426, LANSING, MI 48909-7926, Phone 517-373-9837, Fax 517-373-2637, E-mail DEQ-STD-TANKS@michigan.gov

LEAKING UNDERGROUND STORAGE TANK SUPPLEMENTAL REPORT COVER SHEET

INSTRUCTIONS: Complete this form with all applicable information. Attach this form to all supplemental Leaking Underground Storage Tank (LUST) submittals; this includes all reports other than the Initial Assessment, Final Assessment, and Closure Reports. The Certified Underground Storage Tank Professional (CP) MUST sign below. Please return this completed report cover sheet to the appropriate RRD District Office. See form EQP4410 for a complete list of RRD district offices. Use of this form to provide the listed information is voluntary.

IDENTIFY TYPE OF SUPPLEMENTAL REPORT:

FACILITY NAME: **Consumers Energy – Allegan Service Center** | FACILITY ID NUMBER: 017374

STREET ADDRESS: 670 Grand Street | CITY: Allegan

STATE: Michigan | ZIP CODE: 49010 | COUNTY: Allegan

DATE(S) RELEASE(S) DISCOVERED: July 24, 1986 | CONFIRMED RELEASE NUMBER(S):

O/O NAME: Consumers Energy

O/O STREET ADDRESS: 212 West Michigan Avenue, Jackson | STATE: MI | ZIP CODE: 49201

CONTACT PERSON: Robert G. Neumann | PHONE NUMBER: 517-788-0350

ANSWER ALL QUESTIONS

1. Type(s) of product released: gasoline

2. Free product present:
a. Currently? ☐YES ☒NO
b. Previously? ☒YES ☐NO

If YES, total gallons recovered since last report:
If YES, total gallons recovered to date: 8 gallons

3. Have vapors been identified in any confined spaces (basement, sewers)? ☐YES ☒NO

4. Estimated depth to groundwater: 4 feet | Estimated groundwater flow direction: east-southeast

5. Estimated distance and direction from point of release to nearest:
a. Private well: 72 Grand Street b. Municipal well: 2,500 feet west c. Surface water/wetland: Kazoo R.-2,500' west

6. Since last report: a. cubic yards of soil remediated: 0 b. gallons of groundwater remediated: 14,960 gal.

7. Totals to date: a. cubic yards of soil remediated: 0 b. gallons of groundwater remediated: 3,050,598 gal.

8. Michigan RBCA Site Classification (1-4): 3

9. Has contamination migrated off-site above Tier 1 Residential RBSLs ☐YES ☒NO
If YES, have off-site impacted parties been notified (per Section 21309a(3) of Part 213 ☐YES ☐NO

10. MTBE | Has MTBE been detected in any groundwater sample? ☐YES ☒NO | Maximum MTBE concentration found in groundwater <250 ppb.

CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate, and complete. I certify that the report was submitted to the Remediation & Redevelopment Division (RRD)

on June 6, 2003 (Date submitted **REQUIRED**)

Jeffrey Klan — CP Original Signature - (**REQUIRED**)
6-6-03 — Date
Jeffrey Klan — PRINT QC PROJECT MANAGER'S NAME

Jeffrey Klan — PRINT CP's Name
Prein&Newhof — NAME OF CONSULTING FIRM

CP ID 991
QC ID: Z 0143

ADDRESS 7123 Stadium Drive, Kalamazoo, MI 49009-4943 PHONE: 269-372-1158 FAX: 269-372-3144

K00004167

Progress Report and Quarterly Ground Water Monitoring Results
First Quarter 2003 (January 2003 - March 2003)
Allegan Service Center - Allegan, Michigan

1.0 INTRODUCTION

The purpose of the remediation system at the Consumers Energy Allegan Service Center is to extract volatile organic compounds (VOCs) from the groundwater on the site. The system consists of a granular activated carbon groundwater pumping and treatment system. These systems were designed and installed by Dames & Moore (D&M) in the spring of 1989. D&M was also responsible for system operation and maintenance through mid-March 1993. In March of 1993, Prein&Newhof was contracted to perform system operation, maintenance, repair, and sampling. The remediation system was shut down on April 22, 1998 in preparation of obtaining closure for the site. Four new monitoring wells (MW) were installed in June and July 1999 to identify the concentration of target contaminants, if any, in the groundwater at the downgradient property boundary. Groundwater containing concentrations of some target analytes in excess of Tier 1 Residential Drinking Water Risk Based Screening Levels (RBSLs) appeared to be migrating off-site. The granular activated carbon groundwater pumping and treatment system was re-started in November 1999 to continue the treatment of the contaminated groundwater.

In December 2000, four nests of two monitoring wells each were installed on the TruHeat Corporation property, which is located downgradient directly adjacent to the east of Consumers Energy. Each nest is comprised of a very shallow well that straddles the water table and a submerged well with the top of the screen located approximately 10 feet below the surface of the water table. The base of the screen in the submerged well rests on top of an underlying, laterally extensive confining clay layer.

In September 2001, the treatment system was shut down following injection of oxygen release compound (ORC) into the aquifer. The treatment system was shut down in order that the purge wells would not disturb, move, or extract ORC from the aquifer.

K00004168

The treatment system was restarted in March 2002 after six months of inactivity and after the First Quarterly Sampling event of 2002. The laboratory results of the First Quarterly Sampling of 2002 had demonstrated a minor decrease in the chemical concentrations of all the monitoring wells and it was determined to re-start the treatment system. It was determined that the ORC would not be extracted by operating the purge wells.

K00004169

2.0 QUARTERLY GROUND WATER MONITORING RESULTS

Quarterly groundwater sampling of the nineteen (19) monitoring wells (MW) at the Consumers Energy Allegan Service Center and TruHeat Corporation property was conducted on March 13-14, 2003. The three purge wells that extract and filter the contaminated groundwater were not operating at the time of the quarterly sampling, therefore, no samples were collected from the three purge wells

2.1 Monitoring Well Sampling

Static water levels were measured in each of the MWs on March 13, 2003. Where feasible, the wells were purged of three to five casing volumes of water prior to sampling. Because monitoring well MW-3 again failed to recharge within a reasonable time period, this well was bailed dry and a sample was collected from the recovery groundwater that subsequently seeped into the well.

Samples were collected from the eleven MWs on the Consumers property. The TruHeat Corporation MWs had three of the eight MWs frozen shut and no sample was collected from T-103S, T-104S and T-104D. Disposable teflon bailers were utilized in collecting the samples from all the wells to prevent cross-contamination. All three of the purge wells were not operating and no samples were collected from them. The laboratory results of the groundwater samples collected from the eleven MWs are discussed in Sections 2.3 through 2.5. The samples were handled using standard industry procedures and were analyzed for specific VOCs and dissolved lead by Prein&Newhof Laboratory of Grand Rapids, Michigan. The portion of each groundwater sample collected for analysis of dissolved lead was filtered in the field immediately upon collection of the sample. The groundwater samples collected from monitoring wells MW-1R, MW-4, MW-12B and T-103D were also analyzed for chemical oxygen demand (COD). The dissolved oxygen (DO) concentration of the groundwater sample collected from each MW and was measured on-site with a DO meter.

Detection limits in all groundwater samples were not in conformance with those specified in the Michigan Department of Environmental Quality - Storage Tank Division (MDEQ-STD),

K00004170

Operational Memorandum #4 (OM#4), Attachment 13, dated February 15, 2001. Higher method detection limits (MDL) were utilized in the analysis of groundwater samples collected from MW-12B and MW-14 due to higher concentrations of target compounds. The chemicals analyzed are listed below and have the corresponding MDLs that were utilized to analyze the samples collected from MW-12B and MW-14.

- Benzene = 50 ug/L
- Ethylbenzene = 50ug/L
- Toluene = 50 ug/L
- Total Xylene = 100 ug/L
- MTBE = 250 ug/L
- 1,2-Dibromo-eth = 50 ug/L
- 1,2-Dichloro-eth = 50 ug/L
- 2-Methy naph = 100 ug/L
- Naphthalene = 100 ug/L
- 1,2,4-TMB = 50 ug/L
- 1,3,5-TMB = 50 ug/L

Table A attached to the end of this report includes the results of the chemical analyses compared with the current Tier 1 Residential Drinking Water Risk Based Screening Levels, which are presented in the MDEQ-STD – OM#4, Attachment 2, Revision 5, dated June 2000. The groundwater elevations in the monitoring wells are also summarized in Table A.

2.2 Groundwater Elevation and Flow Direction

Comparison of water table elevations collected on March 13, 2003 with previous elevations indicates that the general direction of shallow groundwater flow is to the east-southeast. This is generally consistent with the groundwater flow direction that has been observed since August 1989, when the groundwater elevation data was first collected.

K00004171

2.3 VOC Concentrations

Table 1 of MDEQ-STD, Operational Memorandum #14, dated June 12, 1998, presents the recommended target parameters for various petroleum substances. Based upon the past storage of leaded gasoline in the storage tank, the target parameters are benzene, ethylbenzene, toluene and xylene (BTEX), methyl tert-butyl ether (MTBE), 1,2-dibromoethane (EDB), 1,2-dichloroethane (1,2-DCA), 2-methylnaphthalene (2-methyl), naphthalene (naphtha), 1,2,4-trimethylbenzene (1,2,4-TMB), 1,3,5-trimethylbenzene (1,3,5-TMB), and dissolved lead. These target parameters are included in Table A at the end of the report.

The analytical results of the groundwater samples collected from the monitoring wells are presented in Table A. For comparison with the ground water quality results, also included in the table are the Tier 1 Residential and Commercial I Drinking Water RBSLs (Tier 1) from OM#4, Attachment 2, Revision 5, June 2000.

<u>BTEX</u>

Analysis of groundwater samples from the nineteen monitoring wells (MW) and an examination of the laboratory results revealed the following. No detectable concentrations of BTEX parameters were present in the upgradient monitoring wells MW-1R and MW-4. Monitoring wells MW-2, MW-12A, MW-13, and MW-13D, which are downgradient from the former UST location, were also found to contain no detectable concentrations of any BTEX parameters. However, detectable concentrations of some BTEX components were found in groundwater samples collected from the other monitoring wells on the Consumers Energy property. Only four of those MWs contained a detectable concentration of any target VOC in excess of its Tier I value (MW-2A, MW-3A, MW-12B and MW-14).

The three groundwater purge wells were not operating during the quarterly sampling and no samples were collected from them.

The samples collected from the MWs on the TruHeat Corportation property contained no detectable concentrations of any of the chemical parameters analyzed. Only five of the eight MWs had

K00004172

samples collected from them as the other three wells were frozen shut. During the sample collection event on August 30, 2002, 8 ug/L of benzene was detected from T-104D which is above Tier I. The following sampling of T-104D was performed on December 4, 2002 and there were no chemical parameters detected.

Benzene was detected in two of the MWs on the Consumers Energy property. The wells are MW-12B that had 1,050 ug/L and MW-14 that had 150 ug/L. These concentrations exceed the Tier I value of 5 ug/L for benzene.

Ethylbenzene was detected in concentrations exceeding its Tier 1 value in groundwater of 74 ug/L in the following three MWs with respective concentrations: MW-2A at 310 ug/L, MW-12B at 1,250 ug/L and MW-14 at 125 ug/L.

The Tier 1 value for toluene in groundwater is 790 ug/L. Toluene was detected at MW-12B at a concentration of 4,650 ug/L. Toluene was also detected in concentrations of 310 ug/L at MW-2A and 175 ug/L at MW-14 which are below the Tier I value for toluene.

Total xylene was above its Tier 1 value of 280 ug/L in three of the MWs that were sampled. Total xylene was detected in MW-2A at 1,570 ug/L, in MW-12B at 6,200 ug/L, and in MW-14 at 1,480 ug/L.

Other VOCs

Analysis of the groundwater quality results from the nineteen monitoring wells revealed that only five of the nineteen wells contained detectable concentrations of other target VOCs in excess of their respective Tier 1 values. These five wells are MW-2A, MW-3, MW-3A, MW-12B and MW-14. Only the TMB isomers and lead were detected in MW-2A, MW-3 and MW-3A in concentrations exceeding their Tier I values. The concentrations of 1,2,4-TMB and 1,3,5-TMB detected in the groundwater sample collected from MW-2A were 780 ug/L and 200 ug/L, respectively. Only 1,2,4-TMB and lead were detected at MW-3A at respective concentrations of 84 ug/L and 11ug/l. Lead was detected at MW-3 at a concentration of <5 ug/L. The Tier 1 for 1,2,4-TMB is 63 ug/L, 1,3,5-TMB is 72 ug/L and lead is 4 ug/L. MW-3 had detected a minimum

K00004173

concentration of 2-methylnaphthalene of 28 ug/L.

In the sample collected from MW-12B, every VOC parameter that was analyzed for had detectable concentrations. MTBE and EDB had concentrations detected that were above the method detection limit (MDL) and also above the Tier I values. The other chemical concentrations that were detected above the Tier I values were 1,2-DCA at 60 ug/L, 1,2,4-TMB at 950 ug/L, 1,3,5-TMB at 210 ug/L and lead at 18 ug/L.

The MDLs used in the analysis of MTBE, EDB, and 1,2-DCA in MW-14 are greater than their respective Tier I levels. Therefore, the possibility exists that one or more of those three chemical substances may be present in a sample in excess of its Tier I level for the groundwater samples collected from MW-14. However, due to matrix interference and the consequent elevated MDL, a definite chemical concentration cannot be quantified. The Tier 1 for MTBE is 40 ug/L, which is less than the MDLs of 250 ug/L that were utilized during the analysis of some of the groundwater samples that were collected. However, MTBE is not interpreted to pose a concern, as MTBE has never been detected anywhere within this groundwater contaminant plume. The Tier I for 1,2-DCA is 5 ug/L, which is less that the MDLs of 50 ug/L. The Tier I for EDB is 0.05 ug/L and 50 ug/L was the MDL. The 1,2,4-TMB had a concentration of 500 ug/L detected which is above the Tier I value of 63 ug/L. The concentration of lead was 6 ug/L being above the Tier I value of 4ug/L.

The three groundwater purge wells were not operating and groundwater samples were not collected from them.

2.4 Chemical Oxygen Demand

Chemical oxygen demand (COD) levels were measured in the groundwater samples that were collected from three of the MWs on the Consumers Energy property and from one MW on the TruHeat Corporation property. The groundwater samples were collected from MW-1R, MW-4 and MW-12B on the Consumers Energy property and the results for COD concentrations were 36 mg/L, 19 mg/L and 253 mg/L, respectively. COD level in the groundwater sample from MW T-103D on the TruHeat Corporation property was 24 mg/L.

K00004174

COD levels in groundwater have remained low and are substantially less than the levels of COD detected in groundwater in excess of 900 mg/L during MW sampling and vertical aquifer profiling activities in September 2000. The COD levels this quarter ranged between 19 mg/L in MW-4 and 253 mg/L in MW-12B.

The concentration of dissolved oxygen (DO) was measured in the groundwater samples collected from each MW location utilizing a DO detection meter during the sampling process. The DO concentration of each MW sample is listed in Table A.

2.5 Dissolved Lead Concentrations

Dissolved lead (DL) was analyzed in the groundwater samples collected from all MWs that were sampled. The concentration of DL detected in three of the MWs was above the Tier I value of 4 ug/L. The highest DL concentration value during this sampling event was 18 ug/L, that was collected from MW-12B. The remaining two MWs were MW-3A and MW-14 with respective DL concentration values of 11 ug/L and 6 ug/L. MW-3 had and elevated MDL of 5 ug/L that was above the Tier I value for DL of 4 ug/L. The samples collected from the MWs on the TruHeat Corporation property all had MDLs of <1 ug/ L and 2 ug/L, which are below the Tier I.

K00004175

3.0 DATA INTERPRETATION

3.1 Status of Cleanup

The chemical concentration of the volatile organic compounds (VOC) present in the groundwater apparently follows a seasonal progression. The monitoring wells that detect concentrations of VOC have their seasonal high concentration detected in the winter, then the VOC concentration progresses downward achieving its lowest concentration during the summer. It has been eighteen months since the oxygen release compound (ORC) was injected into the aquifer. The injection of ORC generally requires a period of time for the bacteria to propagate, perform their enzymatic dismantling of the VOCs in the groundwater and for the chemical concentrations to progress downward. The contaminants present in the groundwater have followed the seasonal fluctuation and has not significantly lowered by the anticipated values.

However, the value of VOCs located in the groundwater sample collected from MW-12A has lowered to a non-detectable chemical concentration. During the May 24, 2002 sampling event toluene, xylene, 1,2,4-TMB and 1,3,5-TMB were detected that were all above the Tier I values. During the following sampling event of August 29, 2002, there were no VOCs concentrations detected in MW-12A. The well was frozen during the December 5, 2002 sampling event and no sample was collected. The sampling event that was just performed on March 13, 2003 also had no VOCs detected.

K00004176

- ***Site Location Diagram***

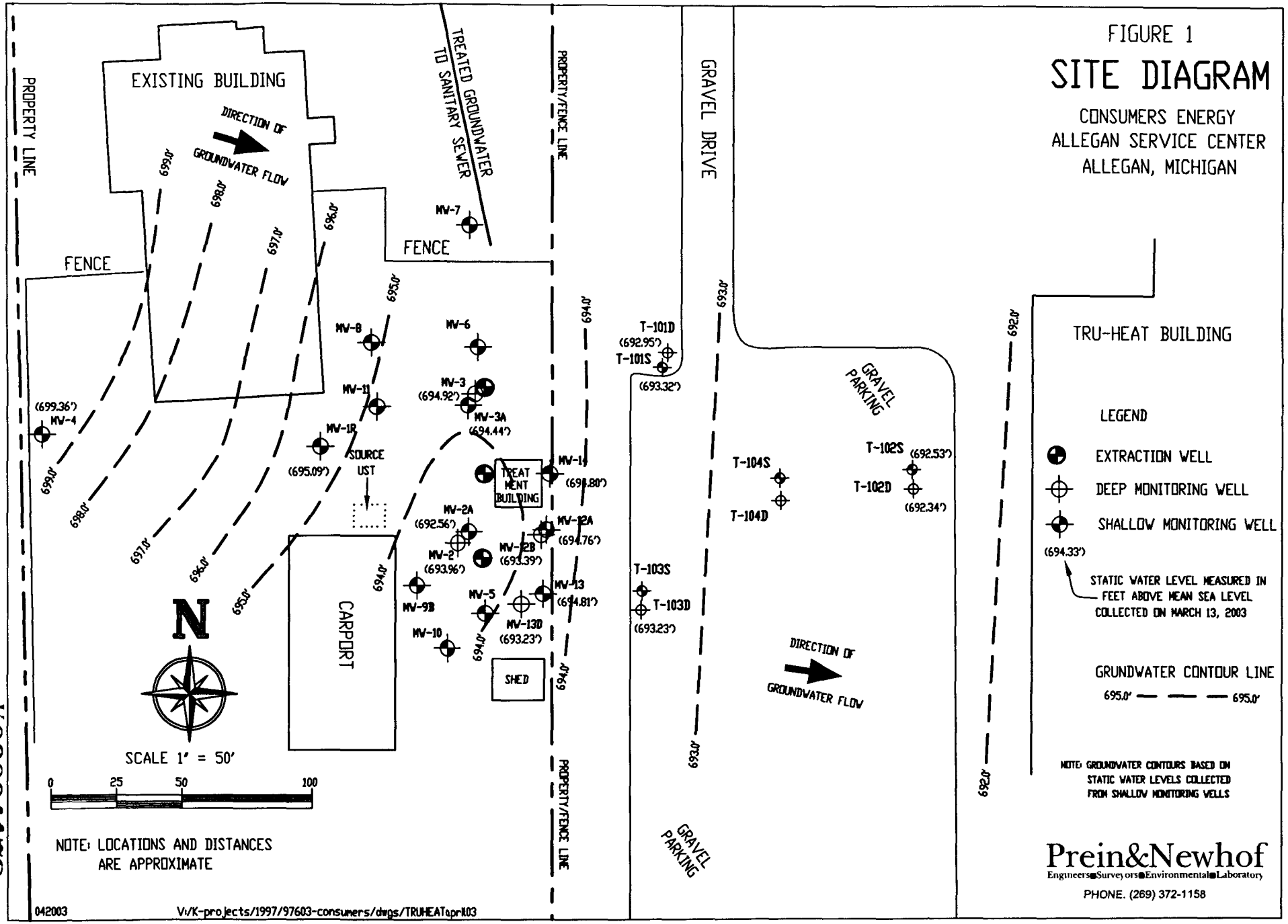
FIGURE 1
SITE DIAGRAM
CONSUMERS ENERGY
ALLEGAN SERVICE CENTER
ALLEGAN, MICHIGAN
EXISTING BUILDING
DIRECTION OF GROUNDWATER FLOW
TREATED GROUNDWATER TO SANITARY SEWER
PROPERTY LINE
PROPERTY/FENCE LINE
FENCE
GRAVEL DRIVE
GRAVEL PARKING
TRU-HEAT BUILDING
MV-7
MV-8
MV-6
MV-11
MV-3 (694.92')
MV-3A (694.44')
MV-4 (699.36')
MV-1R (695.09')
SOURCE UST
TREAT MENT BUILDING
MV-1 (698.80')
MV-2A (692.56')
MV-2 (693.96')
MV-12A (694.76')
MV-12B (693.39')
MV-9B
MV-5
MV-13 (694.81')
MV-13D (693.23')
MV-10
CARPORT
SHED
T-101D (692.95')
T-101S (693.32')
T-104S
T-104D
T-102S (692.53')
T-102D (692.34')
T-103S
T-103D (693.23')
699.0'
698.0'
697.0'
696.0'
695.0'
694.0'
693.0'
692.0'
N
SCALE 1' = 50'
0 25 50 100
NOTE: LOCATIONS AND DISTANCES ARE APPROXIMATE
LEGEND
EXTRACTION WELL
DEEP MONITORING WELL
SHALLOW MONITORING WELL
(694.33')
STATIC WATER LEVEL MEASURED IN FEET ABOVE MEAN SEA LEVEL COLLECTED ON MARCH 13, 2003
GRUNDWATER CONTOUR LINE
695.0'
NOTE: GROUNDWATER CONTOURS BASED ON STATIC WATER LEVELS COLLECTED FROM SHALLOW MONITORING WELLS
Prein&Newhof
Engineers Surveyors Environmental Laboratory
PHONE. (269) 372-1158
042003
V:/K-projects/1997/97603-consumers/dwgs/TRUHEATapr03

K0000417 8

- ***Tables***

TABLE A

ANALYSIS OF QUARTERLY MONITORING DATA
CONSUMERS ENERGY - ALLEGAN SERVICE CENTER

	MW-1R	MW-2	MW-2A	MW-3	MW-3A	MW-4	MW-12A	MW-12B	MW-13	MW-13D	MW-14	SPW	MPW	NPW	TIER I
Date Sampled	3/13/03	3/13/03	3/13/03	3/13/03	3/13/03	3/13/03	3/13/03	3/13/03	3/13/03	3/13/03	3/13/03	3/13/03	3/13/03	3/13/03	
Water Elev.(ft)	695.09	693.96	693.56	695.92	694.44	699.36	694.76	693.39	695.81	693.23	694.80	NM	NM	NM	
TOC to Water (ft)	5.75	5.05	5.22	3.36	4.81	7.65	4.35	5.65	3.00	5.78	4.35	NM	NM	NM	
TOC Elev. (ft)	700.84	699.01	698.78	699.28	699.25	707.01	699.11	699.04	698.81	699.01	699.15	NM	NM	NM	
Benzene	<1	<1	<1	2	<1	<1	<1	**1,050**	<1	<1	**150**	NA	NA	NA	5
Ethylbenzene	<1	<1	**310**	1	54	<1	<1	**1,250**	<1	<1	**125**	NA	NA	NA	74
Toluene	<1	<1	310	1	8	<1	<1	**4,650**	<1	<1	175	NA	NA	NA	790
m,p-Xylene	<2	<2	1,200	3	160	<2	<2	4,900	<2	<2	1,000	NA	NA	NA	
o-Xylene	<1	<1	370	<1	20	<1	<1	1,300	<1	<1	480	NA	NA	NA	
Total Xylene	<3	<3	**1,570**	3	180	<3	<3	**6,200**	<3	<3	**1,480**	NA	NA	NA	280
MTBE	<5	<5	<5	<5	<5	<5	<5	**<250**	<5	<5	**<250**	NA	NA	NA	40
1,2–Dibro-eth	<1	<1	<1	<1	<1	<1	<1	**<50**	<1	<1	**<50**	NA	NA	NA	0.05
1,2–Dichlo-eth	<1	<1	<1	<1	<1	<1	<1	**60**	<1	<1	**<50**	NA	NA	NA	5
2–Meth naph	<2	<2	74	28	3	2	<2	175	<2	<2	<100	NA	NA	NA	260
Naphthalene	<2	<2	75	5	10	<2	<2	380	<2	<2	<100	NA	NA	NA	520
1,2,4–TMB	<1	<1	**780**	4	**84**	1	<1	**950**	<1	<1	**500**	NA	NA	NA	63
1,3,5–TMB	<1	<1	**200**	<1	13	<1	<1	**210**	<1	<1	<50	NA	NA	NA	72
Lead	<1	<2	<3	**<5**	**11**	<1	<2	**18**	<1	<1	**6**	NA	NA	NA	4
COD	36	NA	NA	NA	NA	19	NA	253	NA	NA	NA	NA	NA	NA	*
DO	2.5	2.5	2.2	4.0	2.2	3.0	4.5	2.5	5.0	4.1	5.5	NA	NA	NA	*

NA—Not Analyzed; NM—Not Measured
Values in **boldface** exceed Tier I or the MDL exceeds the Tier I.
Tier I = Tier I Residential & Commercial Drinking Water RBSLs
SPW = South purge well
NPW = North purge well
MPW = Middle purge well
Tier I RBSL for 1, 2 - Dibromoethane is 0.05 ug/L, which defaults to the MDL of 1 ug/L
COD—Chemical Oxygen Demand in mg/L
DO = dissolved oxygen in mg/L
* = drinking water standard (no Tier 1 value for COD or DO)
All chemical concentrations expressed in ug/l (parts per billion)

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TABLE A (continued)

ANALYSIS OF QUARTERLY MONITORING DATA
CONSUMERS ENERGY - ALLEGAN SERVICE CENTER

	T-101S	T-101D	T-102S	T-102D	T-103S	T-103D	T-104S	T-104D	TIER I
Date Sampled	3/13/2003	3/13/2003	3/13/2003	3/13/2003	3/13/2003	3/13/2003	3/13/2003	3/13/2003	
Water Elev.(ft)	693.32	692.95	692.53	692.34	NA	693.23	NA	NA	
TOC to Water (ft)	4.15	4.07	2.80	3.15	NA	3.92	NA	NA	
TOC Elev. (ft)	697.47	697.02	695.33	695.49	697.11	697.15	696.41	696.35	
Benzene	<1	<1	<1	<1	NA	<1	NA	NA	5
Ethylbenzene	<1	<1	<1	<1	NA	<1	NA	NA	74
Toluene	<1	<1	<1	<1	NA	<1	NA	NA	790
m,p-Xylene	<2	<2	<2	<2	NA	<2	NA	NA	
o-Xylene	<1	<1	<1	<1	NA	<1	NA	NA	
Total Xylene	<3	<3	<3	<3	NA	<3	NA	NA	280
MTBE	<5	<5	<5	<5	NA	<5	NA	NA	40
1,2–Dibro-eth	<1	<1	<1	<1	NA	<1	NA	NA	0.05
1,2–Dichlo-eth	<1	<1	<1	<1	NA	<1	NA	NA	5
2–Meth naph	<5	<5	<5	<5	NA	<5	NA	NA	260
Naphthalene	<5	<5	<5	<5	NA	<5	NA	NA	520
1,2,4–TMB	<1	<1	<1	<1	NA	<1	NA	NA	63
1,3,5–TMB	<1	<1	<1	<1	NA	<1	NA	NA	72
Lead	<1	<1	<2	<1	NA	<1	NA	NA	4
COD	NA	NA	NA	NA	NA	24	NA	NA	*
DO	8.0	5.5	6.5	2.5	NA	3.0	NA	NA	*

NA—Not Analyzed
Values in **boldface** exceed Tier I or the MDL exceeds the Tier I.
Tier I = Tier I Residential & Commercial Drinking Water RBSLs
COD = Chemical Oxygen Demand in mg/L
DO = dissolved oxygen (in mg/L)
* = Drinking water standard (No Tier 1 value for COD or DO)
Tier I RBSL for 1, 2 - Dibromoethane is 0.05 ug/L, which defaults to the MDL of 1 ug/L
All chemical concentrations expressed in ug/l (parts per billion) except COD and DO

K00004181

TABLE B
HISTORICAL ANALYSIS OF QUARTERLY MONITORING DATA
CONSUMERS ENERGY - ALLEGAN SERVICE CENTER
MONITORING WELLS ON CONSUMERS ENERGY PROPERTY

WELL: MW-1R

Date Sampled	11/20/01	2/21/02	5/23/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	696.84	697.3	697.14	695.84	695.18	695.09
TOC to Water (ft)	4.00	3.54	3.70	5.00	5.66	5.75
TOC Elev. (ft)	700.84	700.84	700.84	700.84	700.84	700.84
Benzene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
m,p-xylene	<2	<2	<2	<2	<2	<2
o-xylene	<1	<1	<1	<1	<1	<1
Total Xylene	<3	<3	<3	<3	<3	<3
MTBE	<5	<5	<5	<5	<5	<5
1,2-Dibro-eth	<1	<5	<5	<5	<5	<5
1,2-Dichlo-eth	<1	<1	<1	<1	<1	<1
2-Meth naph	<5	<5	<5	<5	<5	<5
Naphthalene	<5	<5	<5	<5	<5	<5
1,2,4-TMB	<1	<1	<1	<1	<1	<1
1,3,5-TMB	<1	<1	<1	<1	<1	<1
Lead	<3	39	<4	**26**	<3	<1
DO	NA	3.5	3.2	3.5	NA	2.5
COD	57	41	98	68	45	36

WELL: MW-2

Date Sampled	11/20/01	2/21/02	5/23/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	695.49	696.03	695.50	694.06	693.70	693.96
TOC to Water (ft)	3.52	2.98	3.51	4.95	5.31	5.05
TOC Elev. (ft)	699.01	699.01	699.01	699.01	699.01	699.01
Benzene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
m,p-xylene	<2	<2	<2	<2	<2	<2
o-xylene	<1	<1	<1	<1	<1	<1
Total Xylene	<3	<3	<3	<3	<3	<3
MTBE	<5	<5	<5	<5	<5	<5
1,2-Dibro-eth	<1	<5	<5	<5	<5	<5
1,2-Dichlo-eth	<1	<1	<1	<1	<1	<1
2-Meth naph	<5	<5	<5	<5	<5	<5
Naphthalene	<5	<5	<5	<5	<5	<5
1,2,4-TMB	<1	6.4	<1	<1	<1	<1
1,3,5-TMB	<1	1.1	<1	<1	<1	<1
Lead	<3	<3	<4	**7**	<3	<2
DO	NA	4.0	3.7	4.0	NA	2.5
COD	NA	NA	NA	NA	NA	NA

K00004182

TABLE B

WELL: MW-2A

Date Sampled	11/20/01	2/21/02	5/24/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	695.41	695.93	694.87	693.34	692.95	693.56
TOC to Water (ft)	3.37	2.85	3.91	5.44	5.83	5.22
TOC Elev. (ft)	698.78	698.78	698.78	698.78	698.78	698.78
Benzene	**<50**	**<50**	**<50**	**<5**	**<5**	<1
Ethylbenzene	**630**	**1,100**	**240**	<5	<5	**310**
Toluene	**990**	**1,600**	330	51	170	310
m,p-xylene	3,000	4,600	1,200	1,100	1,500	1,200
o-xylene	910	1,600	470	410	700	370
Total Xylene	**3,910**	**6,200**	**1,670**	**1,510**	**2,200**	**1,570**
MTBE	<250	**<250**	**<250**	<25	<25	<5
1,2-Dibro-eth	**<50**	**<250**	**<50**	<5	<5	<1
1,2-Dichlo-eth	**<50**	**<50**	**<50**	<5	<5	<1
2-Meth naph	<250	<250	<250	<25	<25	74
Naphthalene	<250	<250	<250	68	<25	75
1,2,4-TMB	**1,500**	**3,400**	**640**	**1,100**	**1,800**	**780**
1,3,5-TMB	**530**	**820**	**260**	**300**	**510**	**200**
Lead	**5.9**	<3	<4	**6.0**	<3	<3
DO	NA	4.5	3.8	4.5	NA	2.2
COD	NA	NA	NA	NA	NA	NA

WELL: MW-3

Date Sampled	11/20/01	2/21/02	5/23/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	695.61	695.68	696.21	695.57	695.26	695.92
TOC to Water (ft)	3.67	3.6	3.07	3.71	4.02	3.36
TOC Elev. (ft)	699.28	699.28	699.28	699.28	699.28	699.28
Benzene	<1	<1	3	**7.9**	1.1	2
Ethylbenzene	<1	<1	<1	6.6	<1	1
Toluene	<1	<1	1.6	9.6	<1	1
m,p-xylene	<2	<2	<2	10	<2	3
o-xylene	<1	<1	1.1	3.6	<1	<1
Total Xylene	<3	<3	1.1	13.6	<3	3
MTBE	<5	<5	<5	<5	<5	<5
1,2-Dibro-eth	<1	<5	<1	<1	<5	<1
1,2-Dichlo-eth	<1	<1	<1	<1	<1	<1
2-Meth naph	<5	<5	<5	<5	<5	28
Naphthalene	<5	<5	<5	<5	<5	5
1,2,4-TMB	<1	<1	<1	6.3	<1	4
1,3,5-TMB	<1	<1	<1	2	<1	<1
Lead	<3	**10**	<4	**4**	<3	**<5**
DO	NA	3.0	3.6	3.0	NA	NA
COD	NA	NA	NA	NA	NA	4.0

K00004183

TABLE B

WELL: MW-3A

Date Sampled	11/20/01	2/21/02	5/24/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	697.32	697.23	695.78	694.59	694.24	694.44
TOC to Water (ft)	1.93	2.02	3.47	4.66	5.01	4.81
TOC Elev. (ft)	699.25	699.25	699.25	699.25	699.25	699.25
Benzene	<5	<5	<1	<1	<1	<1
Ethylbenzene	46	50	44	<1	1.2	54
Toluene	9.2	9.5	3.9	<1	<1	8
m,p-xylene	180	160	180	11	5.1	160
o-xylene	20	22	17	4.5	<1	20
Total Xylene	200	182	197	15.5	5.1	180
MTBE	<25	**<25**	<5	<5	<5	<5
1,2-Dibro-eth	<5	**<25**	**<1**	**<1**	**<1**	**<1**
1,2-Dichlo-eth	<5	**<5**	<1	<1	<1	<1
2-Meth naph	<25	<25	<5	<5	<5	3
Naphthalene	<25	<25	<5	<5	<5	10
1,2,4-TMB	**71**	**71**	49	1.3	5.3	**84**
1,3,5-TMB	18	18	17	4.3	3.6	13
Lead	<3	**79**	<4	**23**	<3	**11**
DO	NA	4.0	4.1	4.0	NA	2.2
COD	NA	NA	NA	NA	NA	NA

WELL: MW-4

Date Sampled	11/20/01	2/21/02	5/24/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	700.67	702.05	701.96	699.79	699.26	699.36
TOC to Water (ft)	6.34	4.96	5.05	7.22	7.75	7.65
TOC Elev. (ft)	707.01	707.01	707.01	707.01	707.01	707.01
Benzene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
m,p-xylene	<2	<2	<2	<2	<2	<2
o-xylene	<1	<1	<1	<1	<1	<1
Total Xylene	<3	<3	<3	<3	<3	<3
MTBE	<5	<5	<5	<5	<5	<5
1,2-Dibro-eth	<1	<5	<5	<5	<5	<5
1,2-Dichlo-eth	<1	<1	<1	<1	<1	<1
2-Meth naph	<5	<5	<5	<5	<5	2.0
Naphthalene	<5	<5	<5	<5	<5	<5
1,2,4-TMB	<1	<1	<1	<1	<1	1.0
1,3,5-TMB	<1	<1	<1	<1	<1	<1
Lead	<3	<3	<4	**11**	<3	<3
DO	NA	4.0	3.8	4.0	NA	3.0
COD	<10	<10	69	52	73	19

K00004184

TABLE B

WELL: MW-12A

Date Sampled	11/20/01	2/21/02	5/24/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	695.86	696.3	695.68	695.09	NM	694.76
TOC to Water (ft)	3.25	2.81	3.43	4.02	NM	4.35
TOC Elev. (ft)	699.11	699.11	699.11	699.11	699.11	699.11
Benzene	<5	**<100**	**<20**	<1	NA	<1
Ethylbenzene	**120**	**290**	**210**	<1	NA	<1
Toluene	9.1	180	60	<1	NA	<1
m,p-xylene	1,200	4,100	1,900	<2	NA	<2
o-xylene	450	1,600	1,000	<1	NA	<1
Total Xylene	**1,650**	**5,700**	**2,900**	<3	NA	<3
MTBE	<25	**<500**	**<100**	<5	NA	<5
1,2-Dibro-eth	**<5**	**<500**	**<20**	<5	NA	<5
1,2-Dichlo-eth	<5	**<100**	**<20**	<1	NA	<1
2-Meth naph	<25	**<500**	<100	<5	NA	<5
Naphthalene	51	<500	<100	<5	NA	<5
1,2,4-TMB	**250**	**440**	**960**	<1	NA	<1
1,3,5-TMB	21	**<100**	**90**	<1	NA	<1
Lead	3.4	<3	<4	**10**	NA	<2
DO	NA	7.5	3.2	7.5	NA	4.5
COD	NA	NA	NA	NA	NA	NA

WELL: MW-12B

Date Sampled	11/20/01	2/21/02	5/23/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	694.98	695.59	694.63	693.49	NM	693.39
TOC to Water (ft)	4.06	3.45	4.41	5.55	NM	5.65
TOC Elev. (ft)	699.04	699.04	699.04	699.04	699.04	699.04
Benzene	**1,300**	**1,100**	**29**	**66**	NA	**1,050**
Ethylbenzene	**630**	**390**	<1	**82**	NA	**1,250**
Toluene	**4,100**	**3,900**	<1	5.1	NA	**4,650**
m,p-xylene	3,000	3,100	40	22	NA	4,900
o-xylene	1,000	840	8	7.9	NA	1,300
Total Xylene	**4,000**	**3,940**	48	29.9	NA	**6,200**
MTBE	<50	**<500**	<5	<25	NA	**<250**
1,2-Dibro-eth	**<10**	**<500**	<1	<5	NA	**<50**
1,2-Dichlo-eth	**<10**	**<100**	<1	<5	NA	**60**
2-Meth naph	<50	**<500**	<5	<25	NA	175
Naphthalene	73	**<500**	<5	<25	NA	380
1,2,4-TMB	**500**	**680**	4.4	**92**	NA	**950**
1,3,5-TMB	**200**	**160**	8.3	<5	NA	**210**
Lead	**5.4**	<3	<4	**150**	NA	**18**
DO	NA	5.5	3.2	5.5	NA	2.5
COD	100	130	230	136	NA	250

K00004185

TABLE B

WELL: MW-13

Date Sampled	11/20/01	2/21/02	5/24/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	696.1	696.71	695.76	695.01	694.69	695.81
TOC to Water (ft)	2.71	2.10	3.05	3.80	4.12	3.00
TOC Elev. (ft)	698.81	698.81	698.81	698.81	698.81	698.81
Benzene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
m,p-xylene	<2	<2	<2	<2	<2	<2
o-xylene	<1	<1	<1	<1	<1	<1
Total Xylene	<3	<3	<3	<3	<3	<3
MTBE	<5	<5	<5	<5	<5	<5
1,2-Dibro-eth	<1	<5	<5	<5	<5	<5
1,2-Dichlo-eth	<1	<1	<1	<1	<1	<1
2-Meth naph	<5	<5	<5	<5	<5	<5
Naphthalene	<5	<5	<5	<5	<5	<5
1,2,4-TMB	<1	<1	<1	<1	<1	<1
1,3,5-TMB	<1	<1	<1	<1	<1	<1
Lead	<3	<3	<4	**15**	**10**	<1
DO	NA	5.5	3.0	5.5	NA	5.0
COD	NA	NA	NA	NA	NA	NA

WELL: MW-13D

Date Sampled	11/20/01	2/21/02	5/23/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	694.79	695.39	694.53	693.46	693.10	693.23
TOC to Water (ft)	4.22	3.62	4.48	5.55	5.91	5.78
TOC Elev. (ft)	699.01	699.01	699.01	699.01	699.01	699.01
Benzene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
m,p-xylene	<2	<2	<2	<2	<2	<2
o-xylene	<1	<1	<1	<1	<1	<1
Total Xylene	<3	<3	<3	<3	<3	<3
MTBE	<5	<5	<5	<5	<5	<5
1,2-Dibro-eth	<1	<5	<5	<5	<5	<5
1,2-Dichlo-eth	<1	<1	<1	<1	<1	<1
2-Meth naph	<5	<5	<5	<5	<5	<5
Naphthalene	<5	<5	<5	<5	<5	<5
1,2,4-TMB	<1	<1	<1	<1	<1	<1
1,3,5-TMB	<1	<1	<1	<1	<1	<1
Lead	<3	<3	<4	**5**	<3	<1
DO	NA	3.0	3.3	3.0	NA	4.1
COD	NA	NA	NA	NA	NA	NA

K00004186

TABLE B

WELL: MW-14

Date Sampled	11/20/01	2/21/02	5/23/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	696.24	697.25	696.00	695.31	694.93	694.80
TOC to Water (ft)	2.91	1.90	3.15	3.85	4.22	4.22
TOC Elev. (ft)	699.15	699.15	699.15	699.15	699.15	699.15
Benzene	**3,600**	**350**	**<10**	**100**	**6.8**	**150**
Ethylbenzene	**320**	**420**	**200**	**350**	**94**	**125**
Toluene	**4,000**	640	14	110	50	175
m,p-xylene	850	1,200	480	560	500	1,000
o-xylene	490	510	330	1,200	450	480
Total Xylene	**1,340**	**1,710**	**810**	**1,760**	**950**	**1,480**
MTBE	<50	**<250**	**<50**	**<50**	<5	**<250**
1,2-Dibro-eth	**<10**	**<250**	**<10**	**<10**	<1	**<50**
1,2-Dichlo-eth	**<10**	**<50**	**<10**	**<10**	<1	**<50**
2-Meth naph	<50	<250	<50	<50	<5	<100
Naphthalene	<50	<250	<50	68	46	<100
1,2,4-TMB	**230**	**440**	**210**	57	480	**500**
1,3,5-TMB	70	70	26	26	33	<50
Lead	**8.1**	<3	<4	**14**	**24**	**6.0**
DO	NA	4.5	3.6	4.5	NA	5.5
COD	NA	NA	NA	NA	NA	NA

WELL: North Purge Well

Date Sampled	11/20/01	2/21/02	5/23/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	NM	NM	NM	NM	NM	NM
TOC to Water (ft)	NM	NM	NM	NM	NM	NM
TOC Elev. (ft)	NM	NM	NM	NM	NM	NM
Benzene	**6.7**	**330**	<1	<1	NA	NA
Ethylbenzene	17	**1,500**	<1	70	NA	NA
Toluene	58	**9,300**	<1	90	NA	NA
m,p-xylene	220	7,400	<2	370	NA	NA
o-xylene	76	3,100	<1	170	NA	NA
Total Xylene	**296**	**10,500**	<3	**540**	NA	NA
MTBE	<5	**<500**	<5	<5	NA	NA
1,2-Dibro-eth	<1	**<500**	<5	<1	NA	NA
1,2-Dichlo-eth	<1	**<100**	<1	<1	NA	NA
2-Meth naph	<5	**<500**	<5	<5	NA	NA
Naphthalene	13	<500	<5	59	NA	NA
1,2,4-TMB	**320**	**1,400**	<1	**200**	NA	NA
1,3,5-TMB	**93**	**310**	<1	53	NA	NA
Lead	<3	<3	<4	<3	NA	NA
DO	NA	NA	3.1	1.5	NA	NA
COD	NA	NA	NA	NA	NA	NA

NA - Not Analyzed
NM - Not Measured
All chemical concentrations expressed in ug/L (parts per billion)

K00004187

TABLE B

WELL: South Purge Well

Date Sampled	11/20/01	2/21/02	5/23/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	NM	NM	NM	NM	NM	NM
TOC to Water (ft)	NM	NM	NM	NM	NM	NM
TOC Elev. (ft)	NM	NM	NM	NM	NM	NM
Benzene	**18**	**<20**	**<5**	**62**	NA	NA
Ethylbenzene	48	<20	<5	58	NA	NA
Toluene	79	<20	<5	83	NA	NA
m,p-xylene	320	130	<10	360	NA	NA
o-xylene	85	41	200	98	NA	NA
Total Xylene	**405**	171	200	**458**	NA	NA
MTBE	**<50**	**<100**	<25	<25	NA	NA
1,2-Dibro-eth	**<10**	**<100**	<5	<5	NA	NA
1,2-Dichlo-eth	**<10**	**<20**	<5	<5	NA	NA
2-Meth naph	<50	<100	<25	<25	NA	NA
Naphthalene	<50	<100	<25	<25	NA	NA
1,2,4-TMB	**440**	**1,400**	<5	**170**	NA	NA
1,3,5-TMB	**180**	**360**	**90**	38	NA	NA
Lead	**3.8**	<3	<4	<3	NA	NA
DO	NA	NA	3	3	NA	NA
COD	NA	NA	NA	NA	NA	NA

WELL: Middle Purge Well

Date Sampled	11/20/01	2/21/02	5/23/02	8/29/02	12/5/02	3/13/03
Groundwater Elevation (ft)	NM	NM	NM	NM	NM	NM
TOC to Water (ft)	NM	NM	NM	NM	NM	NM
TOC Elev. (ft)	NM	NM	NM	NM	NM	NM
Benzene	**170**	**320**	**60**	**410**	NA	NA
Ethylbenzene	**900**	**1,400**	<20	**200**	NA	NA
Toluene	**5,000**	**8,400**	<20	530	NA	NA
m,p-xylene	4,600	7,200	1,400	1,100	NA	NA
o-xylene	2,000	3,000	1,000	600	NA	NA
Total Xylene	**6,600**	**10,200**	**2,400**	**1,700**	NA	NA
MTBE	<250	**<500**	**<100**	**<100**	NA	NA
1,2-Dibro-eth	**<50**	**<500**	**<20**	**<20**	NA	NA
1,2-Dichlo-eth	**<50**	**<100**	**<20**	**<20**	NA	NA
2-Meth naph	<250	**<500**	<100	<100	NA	NA
Naphthalene	<250	<500	<100	<100	NA	NA
1,2,4-TMB	**880**	**1,300**	**170**	**330**	NA	NA
1,3,5-TMB	**240**	**300**	**210**	**79**	NA	NA
Lead	<3	<3	<4	**4**	NA	NA
DO	NA	NA	4.1	2.5	NA	NA
COD	NA	NA	NA	NA	NA	NA

NA - Not Analyzed
NM - Not Measured
All chemical concentrations expressed in ug/L (parts per billion)
Values in **boldface** exceed Tier I or the MDL ecxeeds

K00004188

TABLE C

HISTORICAL ANALYSIS OF QUARTERLY MONITORING DATA
CONSUMERS ENERGY - ALLEGAN SERVICE CENTER
MONITORING WELLS ON TRUHEAT CORPORATION PROPERTY

WELL: T-101S

Date Sampled	11/20/01	2/22/02	5/24/02	8/30/02	12/5/02	3/14/03
Groundwater Elevation (ft)	695.07	695.78	695.92	693.57	692.95	693.32
TOC to Water (ft)	2.40	1.69	1.55	3.90	4.53	4.15
TOC Elev. (ft)	697.47	697.47	697.47	697.47	697.47	697.47
Benzene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
m,p-xylene	<2	<2	<2	<2	<2	<2
o-xylene	<1	<1	<1	<1	<1	<1
Total Xylene	<3	<3	<3	<3	<3	<3
MTBE	<5	<5	<5	<5	<5	<5
1,2-Dibro-eth	<1	<1	<1	<1	<1	<1
1,2-Dichlo-eth	<1	<1	<1	<1	<1	<1
2-Meth naph	<1	<1	<1	<1	<1	<1
Naphthalene	<5	<5	<5	<5	<5	<5
1,2,4-TMB	<1	<1	<1	<1	<1	<1
1,3,5-TMB	<1	<1	<1	<1	<1	<1
Lead	<3	<3	<3	<3	<3	<1
DO	NA	11.0	4.4	4.0	NA	8.0
COD	NA	NA	NA	NA	NA	NA

WELL: T-101D

Date Sampled	11/21/01	2/22/02	5/24/02	8/30/02	12/5/02	3/14/03
Groundwater Elevation (ft)	694.32	694.77	694.27	693.02	692.52	692.95
TOC to Water (ft)	2.70	2.25	2.75	4.00	4.50	4.07
TOC Elev. (ft)	697.02	697.02	697.02	697.02	697.02	697.02
Benzene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
m,p-xylene	<2	<2	<2	<2	<2	<2
o-xylene	<1	<1	<1	<1	<1	<1
Total Xylene	<3	<3	<3	<3	<3	<3
MTBE	<5	<5	<5	<5	<5	<5
1,2-Dibro-eth	<1	<1	<1	<1	<1	<1
1,2-Dichlo-eth	<1	<1	<1	<1	<1	<1
2-Meth naph	<5	<5	<5	<5	<5	<5
Naphthalene	<5	<5	<5	<5	<5	<5
1,2,4-TMB	<1	<1	<1	<1	<1	<1
1,3,5-TMB	<1	<1	<1	<1	<1	<1
Lead	<3	<3	<3	<3	<3	<1
DO	NA	8.0	6.2	3.5	NA	5.5
COD	NA	NA	NA	NA	NA	NA

K00004189

TABLE C

WELL: T-102S

Date Sampled	11/21/01	2/22/02	5/24/02	8/30/02	12/5/02	3/14/03
Groundwater Elevation (ft)	694.33	694.31	694.08	693.01	692.59	692.53
TOC to Water (ft)	1.00	1.02	1.25	2.32	2.74	2.80
TOC Elev. (ft)	695.33	695.33	695.33	695.33	695.33	695.33
Benzene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
m,p-xylene	<2	<2	<2	<2	<2	<2
o-xylene	<1	<1	<1	<1	<1	<1
Total Xylene	<3	<3	<3	<3	<3	<3
MTBE	<5	<5	<5	<5	<5	<5
1,2-Dibro-eth	<1	<1	<1	<1	<1	<1
1,2-Dichlo-eth	<1	<1	<1	<1	<1	<1
2-Meth naph	<5	<5	<5	<5	<5	<5
Naphthalene	<5	<5	<5	<5	<5	<5
1,2,4-TMB	<1	<1	<1	<1	<1	<1
1,3,5-TMB	<1	<1	<1	<1	<1	<1
Lead	<3	<3	<3	**21**	<3	<2
DO	NA	10.0	5.5	2.5	NA	6.5
COD	NA	NA	NA	NA	NA	NA

WELL: T-102D

Date Sampled	11/21/01	2/22/02	5/24/02	8/30/02	12/5/02	3/14/03
Groundwater Elevation (ft)	693.49	693.88	693.51	692.15	691.69	692.34
TOC to Water (ft)	2.00	1.61	1.98	3.34	3.80	3.15
TOC Elev. (ft)	695.49	695.49	695.49	695.49	695.49	695.49
Benzene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
m,p-xylene	<2	<2	<2	<2	<2	<2
o-xylene	<1	<1	<1	<1	<1	<1
Total Xylene	<3	<3	<3	<3	<3	<3
MTBE	<5	<5	<5	<5	<5	<5
1,2-Dibro-eth	<1	<1	<1	<1	<1	<1
1,2-Dichlo-eth	<1	<1	<1	<1	<1	<1
2-Meth naph	<5	<5	<5	<5	<5	<5
Naphthalene	<5	<5	<5	<5	<5	<5
1,2,4-TMB	<1	<1	<1	<1	<1	<1
1,3,5-TMB	<1	<1	<1	<1	<1	<1
Lead	<3	<3	<3	<3	<3	<1
DO	NA	6.5	6.2	2.5	NA	2.5
COD	NA	NA	NA	NA	NA	NA

K00004190

TABLE C

WELL: T-103S

Date Sampled	11/21/01	2/22/02	5/24/02	8/30/02	12/5/02	3/14/03
Groundwater Elevation (ft)	694.78	694.04	695.4	693.21	692.78	NM
TOC to Water (ft)	2.33	2.07	2.71	3.9	4.33	NM
TOC Elev. (ft)	697.11	697.11	697.11	697.11	697.11	697.11
Benzene	<1	<1	<1	<1	<1	NA
Ethylbenzene	<1	<1	<1	<1	<1	NA
Toluene	<1	<1	<1	<1	<1	NA
m,p-xylene	<2	<2	<2	<2	<2	NA
o-xylene	<1	<1	<1	<1	<1	NA
Total Xylene	<3	<3	<3	<3	<3	NA
MTBE	<5	<5	<5	<5	<5	NA
1,2-Dibro-eth	<1	<1	<1	<1	<1	NA
1,2-Dichlo-eth	<1	<1	<1	<1	<1	NA
2-Meth naph	<5	<5	<5	<5	<5	NA
Naphthalene	<5	<5	<5	<5	<5	NA
1,2,4-TMB	<1	<1	<1	<1	<1	NA
1,3,5-TMB	<1	<1	<1	<1	<1	NA
Lead	<3	<3	<3	8	<3	NA
DO	NA	10	4.2	3	NA	NA
COD	<10	11	78	48	29	NA

WELL: T-103D

Date Sampled	11/21/01	2/22/02	5/24/02	8/30/02	12/5/02	3/14/03
Groundwater Elevation (ft)	694.45	694.85	694.36	693.18	692.80	693.23
TOC to Water (ft)	2.7	2.3	2.79	3.97	4.33	3.92
TOC Elev. (ft)	697.15	697.15	697.15	697.15	697.15	697.15
Benzene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
m,p-xylene	<2	<2	<2	<2	<2	<2
o-xylene	<1	<1	<1	<1	<1	<1
Total Xylene	<3	<3	<3	<3	<3	<3
MTBE	<5	<5	<5	<5	<5	<5
1,2-Dibro-eth	<1	<1	<1	<1	<1	<1
1,2-Dichlo-eth	<1	<1	<1	<1	<1	<1
2-Meth naph	<5	<5	<5	<5	<5	<5
Naphthalene	<5	<5	<5	<5	<5	<5
1,2,4-TMB	<1	<1	<1	<1	<1	<1
1,3,5-TMB	<1	<1	<1	<1	<1	<1
Lead	<3	<3	<3	<3	<3	<1
DO	NA	6.0	7.1	3.0	NA	3.0
COD	27	<10	51	20	24	24

K00004191

TABLE C

WELL: T-104S

Date Sampled	11/21/01	2/22/02	5/24/02	8/30/02	12/5/02	3/14/03
Groundwater Elevation (ft)	694.84	694.7	694.36	693.19	692.61	NM
TOC to Water (ft)	1.57	1.71	2.05	3.22	3.80	NM
TOC Elev. (ft)	696.41	696.41	696.41	696.41	696.41	696.41
Benzene	<1	<1	<1	<1	<1	NA
Ethylbenzene	<1	<1	<1	<1	<1	NA
Toluene	<1	<1	<1	<1	<1	NA
m,p-xylene	<2	<2	<2	<2	<2	NA
o-xylene	<1	<1	<1	<1	<1	NA
Total Xylene	<3	<3	<3	<3	<3	NA
MTBE	<5	<5	<5	<5	<5	NA
1,2-Dibro-eth	<1	<1	<1	<1	<1	NA
1,2-Dichlo-eth	<1	<1	<1	<1	<1	NA
2-Meth naph	<5	<5	<5	<5	<5	NA
Naphthalene	<5	<5	<5	<5	<5	NA
1,2,4-TMB	<1	<1	<1	<1	<1	NA
1,3,5-TMB	<1	<1	<1	<1	<1	NA
Lead	<3	<3	<3	3	<3	NA
DO	NA	11	4.3	2.5	NA	NA
COD	NA	NA	NA	NA	NA	NA

WELL: T-104D

Date Sampled	11/21/01	2/22/02	5/24/02	8/30/02	12/5/02	3/14/03
Groundwater Elevation (ft)	694.09	694.44	694.03	692.91	692.35	NM
TOC to Water (ft)	2.26	1.91	2.32	3.44	4.00	NM
TOC Elev. (ft)	696.35	696.35	696.35	696.35	696.35	696.35
Benzene	**360**	**92**	4.5	**8**	<1	NA
Ethylbenzene	**110**	28	4.6	4.6	<1	NA
Toluene	<10	<5	<1	<1	<1	NA
m,p-xylene	170	12	<2	<2	<2	NA
o-xylene	<10	<5	<1	<1	<1	NA
Total Xylene	170	12	<3	<5	<5	NA
MTBE	<50	<25	<5	<5	<5	NA
1,2-Dibro-eth	<10	<25	<1	<1	<1	NA
1,2-Dichlo-eth	<10	<5	<1	<1	<1	NA
2-Meth naph	<50	<25	<5	<5	<5	NA
Naphthalene	<50	<25	<5	<5	<5	NA
1,2,4-TMB	<10	<5	<1	<1	<1	NA
1,3,5-TMB	<10	<5	<1	<1	<1	NA
Lead	<3	<3	<3	<3	<3	NA
DO	NA	6.5	6.5	1.5	NA	NA
COD	NA	NA	NA	NA	NA	NA

K00004192

TABLE C

NA - Not Analyzed
NM - Not Measured
All chemical concentrations expressed in ug/L (parts per billion)
Values in **boldface** exceed Tier I of the MDL exceeds the Tier I

K00004193

- ***Vertical Component of Flow Calculations***

VERTICAL COMPONENT OF FLOW (VCF) CALCULATIONS

CONSUMERS ENERGY AND TRUHEAT, CORPORATION

ALLEGAN, MICHIGAN

(SWLs collected on March 13, 2003)

$$\mathbf{VCF} = \frac{\text{SWL (shallow)} - \text{SWL (deep)}}{\text{MPT of well screen (shallow)} - \text{MPT of well screen (deep)}}$$

Wells	SWL	MPT of screen	Calculations		VCF
T-101S	693.32'	5'	693.32' – 692.95'	=	-0.0463
T-101D	692.95'	13'	5' - 13'		
T-102S	692.53'	4'	692.53' – 692.34'	=	-0.0224
T-102D	692.34'	12.5'	4' – 12.5'		
T-103S	NA	4'	NA – NA	=	NA
T-103D	NA	12.5'	4' - 12.5'		
T-104S	NA	4.5'	NA – NA	=	NA
T-104D	NA	12.5'	4.5' – 12.5'		
MW-2	693.96'	14'	693.96' – 693.56'	=	-0.0500
MW-2A	693.56'	6'	6' - 14'		
MW-3	695.92'	14'	695.92 – 694.44'	=	-0.1850
MW-3A	694.44	6'	6' – 14'		
MW-12A	694.76'	14'	694.76' – 693.39'	=	-0.1957
MW-12B	693.39'	6'	6' - 14'		
MW-13	695.81'	14'	695.81' – 693.23'	=	-0.3225
MW-13D	693.23	6'	6' – 14'		

MPT = midpoint

SWL = static water level

- ***Laboratory Analytical Results***

Prein&Newhof

Engineers ▪ Surveyors ▪ Environmental ▪ Laboratory

Delivery Group # 2003 0001178

Customer Name Prein & Newhof
Address 3355 Evergreen Dr NE

Grand Rapids, MI 49525

Contact Name Mr Jeff Klan
7123 Stadium Drive

Kalamazoo, MI 49009

Project Name Consumers Energy

Project # 97603L

Sampled By J Klan (P&N)

Lab Log # 2003:0001178-1 **Sample ID: MW-1R**

Date Received: 3/17/03
Date Sampled: 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Chemical Oxygen Demand (COD)	36.0	mg/L	SM 5220D	5 00	HILGENBERG	3/17/03
Lead, Dissolved	<0.001	mg/L	SM3113B	0 001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/17/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/17/03
1,2,4 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/17/03
1,3,5 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/17/03
2 - Methylnaphthalene	<2	µg/L	624/8260A	2	DEAN	3/17/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/17/03
Ethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/17/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/17/03
Naphthalene	<2	µg/L	624/8260A	2	DEAN	3/17/03
Toluene	<1	µg/L	624/8260A	1	DEAN	3/17/03
Xylene, m/p	<1	µg/L	624/8260A	1	DEAN	3/17/03
Xylene, o	<1	µg/L	624/8260A	1	DEAN	3/17/03

Lab Log # 2003:0001178-2 **Sample ID: MW-2**

Date Received: 3/17/03
Date Sampled: 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Lead, Dissolved	0.002	mg/L	SM3113B	0 001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/17/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/17/03
1,2,4 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/17/03
1,3,5 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/17/03
2 - Methylnaphthalene	<2	µg/L	624/8260A	2	DEAN	3/17/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/17/03
Ethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/17/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/17/03
Naphthalene	<2	µg/L	624/8260A	2	DEAN	3/17/03
Toluene	<1	µg/L	624/8260A	1	DEAN	3/17/03
Xylene, m/p	<1	µg/L	624/8260A	1	DEAN	3/17/03
Xylene, o	<1	µg/L	624/8260A	1	DEAN	3/17/03

Lab Log # 2003:0001178-3 **Sample ID: MW-2A**

Date Received: 3/17/03
Date Sampled: 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Lead, Dissolved	0.003	mg/L	SM3113B	0 001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/17/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/17/03
1,2,4 - Trimethylbenzene	780	µg/L	624/8260A	1 00	DEAN	3/17/03
1,3,5 - Trimethylbenzene	200	µg/L	624/8260A	1 00	DEAN	3/17/03
2 - Methylnaphthalene	74.0	µg/L	624/8260A	2 00	DEAN	3/17/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/17/03
Ethylbenzene	310	µg/L	624/8260A	1 00	DEAN	3/17/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/17/03
Naphthalene	75.0	µg/L	624/8260A	2 00	DEAN	3/17/03
Toluene	310	µg/L	624/8260A	1 00	DEAN	3/17/03
Xylene, m/p	1200	µg/L	624/8260A	1 00	DEAN	3/17/03

K00004197

Xylene, o	370	µg/L	624/8260A	1 00	DEAN	3/17/03

ab Log # 2003:0001178-4 Sample ID: MW-3

Date Received 3/17/03
Date Sampled 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Lead, Dissolved	<0.005	mg/L	SM3113B	0 005	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/17/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/17/03
1,2,4 - Trimethylbenzene	4.00	µg/L	624/8260A	1 00	DEAN	3/17/03
1,3,5 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/17/03
2 - Methylnaphthalene	28.0	µg/L	624/8260A	2 00	DEAN	3/17/03
Benzene	2.00	µg/L	624/8260A	1 00	DEAN	3/17/03
Ethylbenzene	1.00	µg/L	624/8260A	1 00	DEAN	3/17/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/17/03
Naphthalene	5.00	µg/L	624/8260A	2 00	DEAN	3/17/03
Toluene	1.00	µg/L	624/8260A	1 00	DEAN	3/17/03
Xylene, m/p	3.00	µg/L	624/8260A	1 00	DEAN	3/17/03
Xylene, o	<1	µg/L	624/8260A	1	DEAN	3/17/03

ab Log # 2003:0001178-5 Sample ID: MW-3A

Date Received 3/17/03
Date Sampled 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Lead, Dissolved	0.011	mg/L	SM3113B	0 001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2,4 - Trimethylbenzene	84.0	µg/L	624/8260A	1 00	DEAN	3/18/03
1,3,5 - Trimethylbenzene	13.0	µg/L	624/8260A	1 00	DEAN	3/18/03
2 - Methylnaphthalene	3.00	µg/L	624/8260A	2 00	DEAN	3/18/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Ethylbenzene	54.0	µg/L	624/8260A	1 00	DEAN	3/18/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/18/03
Naphthalene	10.0	µg/L	624/8260A	2 00	DEAN	3/18/03
Toluene	8.00	µg/L	624/8260A	1 00	DEAN	3/18/03
Xylene, m/p	160	µg/L	624/8260A	1 00	DEAN	3/18/03
Xylene, o	20.0	µg/L	624/8260A	1 00	DEAN	3/18/03

ab Log # 2003:0001178-6 Sample ID: MW-4

Date Received 3/17/03
Date Sampled: 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Chemical Oxygen Demand (COD)	19.0	mg/L	SM 5220D	5 00	HILGENBERG	3/17/03
Lead, Dissolved	0.001	mg/L	SM3113B	0 001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2,4 - Trimethylbenzene	1.00	µg/L	624/8260A	1 00	DEAN	3/18/03
1,3,5 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
2 - Methylnaphthalene	2.00	µg/L	624/8260A	2 00	DEAN	3/18/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Ethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/18/03
Naphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Toluene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, m/p	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, o	<1	µg/L	624/8260A	1	DEAN	3/18/03

ab Log # 2003:0001178-7 Sample ID: MW-12A

Date Received 3/17/03
Date Sampled 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Lead, Dissolved	0.002	mg/L	SM3113B	0 001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/18/03

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1,2,4 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,3,5 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
2 - Methylnaphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Ethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/18/03
Naphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Toluene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, m/p	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, o	<1	µg/L	624/8260A	1	DEAN	3/18/03

b Log #: 2003:0001178-8 **Sample ID: MW-12B**

Date Received: 3/17/03
Date Sampled: 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Chemical Oxygen Demand (COD)	253	mg/L	SM 5220D	5.00	HILGENBERG	3/17/03
Lead, Dissolved	0.018	mg/L	SM3113B	0.001	BYLSMA	3/21/03
1,2 - Dibromoethane	<50.0	µg/L	624/8260A	50.0	DEAN	3/18/03
1,2 - Dichloroethane	60.0	µg/L	624/8260A	50.0	DEAN	3/18/03
1,2,4 - Trimethylbenzene	950	µg/L	624/8260A	50 0	DEAN	3/18/03
1,3,5 - Trimethylbenzene	210	µg/L	624/8260A	50.0	DEAN	3/18/03
2 - Methylnaphthalene	175	µg/L	624/8260A	100	DEAN	3/18/03
Benzene	1050	µg/L	624/8260A	50 0	DEAN	3/18/03
Ethylbenzene	1250	µg/L	624/8260A	50.0	DEAN	3/18/03
Methyl-tertbutyl-ether	<250	µg/L	624/8260A	250	DEAN	3/18/03
Naphthalene	380	µg/L	624/8260A	100	DEAN	3/18/03
Toluene	4650	µg/L	624/8260A	50.0	DEAN	3/18/03
Xylene, m/p	4900	µg/L	624/8260A	50 0	DEAN	3/18/03
Xylene, o	1300	µg/L	624/8260A	50.0	DEAN	3/18/03

b Log #. 2003:0001178-9 **Sample ID: MW-13**

Date Received: 3/17/03
Date Sampled: 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep. Metals Filtration					CLIENT	3/ 6/03
Lead, Dissolved	0.001	mg/L	SM3113B	0.001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2,4 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,3,5 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
2 - Methylnaphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Ethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/18/03
Naphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Toluene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, m/p	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, o	<1	µg/L	624/8260A	1	DEAN	3/18/03

b Log #. 2003:0001178-10 **Sample ID: MW-13D**

Date Received: 3/17/03
Date Sampled: 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep: Metals Filtration					CLIENT	3/ 6/03
Lead, Dissolved	0.001	mg/L	SM3113B	0.001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2,4 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,3,5 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
2 - Methylnaphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Ethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/18/03
Naphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Toluene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, m/p	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, o	<1	µg/L	624/8260A	1	DEAN	3/18/03

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b Log # 2003:0001178-11 Sample ID: MW-14

Date Received 3/17/03
Date Sampled 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Lead, Dissolved	0.006	mg/L	SM3113B	0 001	BYLSMA	3/21/03
1,2 - Dibromoethane	<50.0	µg/L	624/8260A	50 0	DEAN	3/18/03
1,2 - Dichloroethane	<50.0	µg/L	624/8260A	50 0	DEAN	3/18/03
1,2,4 - Trimethylbenzene	500	µg/L	624/8260A	50 0	DEAN	3/18/03
1,3,5 - Trimethylbenzene	<50.0	µg/L	624/8260A	50 0	DEAN	3/18/03
2 - Methylnaphthalene	<100	µg/L	624/8260A	100	DEAN	3/18/03
Benzene	150	µg/L	624/8260A	50 0	DEAN	3/18/03
Ethylbenzene	125	µg/L	624/8260A	50 0	DEAN	3/18/03
Methyl-tertbutyl-ether	<250	µg/L	624/8260A	250	DEAN	3/18/03
Naphthalene	<100	µg/L	624/8260A	100	DEAN	3/18/03
Toluene	175	µg/L	624/8260A	50 0	DEAN	3/18/03
Xylene, m/p	1000	µg/L	624/8260A	50 0	DEAN	3/18/03
Xylene, o	480	µg/L	624/8260A	50 0	DEAN	3/18/03

ıb Log # 2003:0001178-12 Sample ID: T-101S

Date Received 3/17/03
Date Sampled 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Lead, Dissolved	<0.001	mg/L	SM3113B	0 001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2,4 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,3,5 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
2 - Methylnaphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Ethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/18/03
Naphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Toluene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, m/p	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, o	<1	µg/L	624/8260A	1	DEAN	3/18/03

ab Log # 2003:0001178-13 Sample ID: T-101D

Date Received 3/17/03
Date Sampled 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Lead, Dissolved	<0.001	mg/L	SM3113B	0 001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2,4 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,3,5 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
2 - Methylnaphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Ethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/18/03
Naphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Toluene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, m/p	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, o	<1	µg/L	624/8260A	1	DEAN	3/18/03

ab Log # 2003:0001178-14 Sample ID: T-102S

Date Received. 3/17/03
Date Sampled 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Lead, Dissolved	0.002	mg/L	SM3113B	0 001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2,4 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,3,5 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03

K00004200

2 - Methylnaphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Ethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/18/03
Naphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Toluene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, m/p	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, o	<1	µg/L	624/8260A	1	DEAN	3/18/03

Lab Log # 2003:0001178-15 Sample ID: T-102D

Date Received 3/17/03
Date Sampled 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Lead, Dissolved	<0.001	mg/L	SM3113B	0 001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2,4 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,3,5 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
2 - Methylnaphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Ethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/18/03
Naphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Toluene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, m/p	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, o	<1	µg/L	624/8260A	1	DEAN	3/18/03

Lab Log # 2003:0001178-16 Sample ID: T-103D

Date Received 3/17/03
Date Sampled 3/13/03

Analyte	Result	Units	Method #	Detection Limit	Analyst	Analysis Date
Prep Metals Filtration					CLIENT	3/ 6/03
Chemical Oxygen Demand (COD)	24.0	mg/L	SM 5220D	5 00	HILGENBERG	3/17/03
Lead, Dissolved	<0.001	mg/L	SM3113B	0 001	BYLSMA	3/21/03
1,2 - Dibromoethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2 - Dichloroethane	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,2,4 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
1,3,5 - Trimethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
2 - Methylnaphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Benzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Ethylbenzene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Methyl-tertbutyl-ether	<5	µg/L	624/8260A	5	DEAN	3/18/03
Naphthalene	<2	µg/L	624/8260A	2	DEAN	3/18/03
Toluene	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, m/p	<1	µg/L	624/8260A	1	DEAN	3/18/03
Xylene, o	<1	µg/L	624/8260A	1	DEAN	3/18/03

Samples received on ice

Robert Erickson, Laboratory Director

K00004201

Prein&Newhof
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3260 Evergreen Drive, NE
Grand Rapids, MI 49525
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lab@preinnewhof.com

Client: Prein & Newhof
Project Name: Consumers Energy
Project #: 97603X
Send Results to: Klan
Sampling Personnel: "

Air	A
Drinking Water	D
Groundwater	W
Soil	S
Sludge	L
Oil	O
Other	X

CHAIN OF CUSTODY

Lab Use	Sample Information				Preservative						Analysis Requested														
Lab Sample ID #	Date	Time	Sample Description and Location (e.g. MW-1)	MATRIX	None	H2SO4	HNO3	HCl	NaOH	Other	BTEX	TMBs	1,2-DCA	Naphthalene	MTBE	EDB	2-methyl	diss Pb	COD						
1178-1	3-13-03		MW-1R								X	X	X	X	X	X	X	X	X						
-2	"		MW-2								X	X	X	X	X	X	X	X							
-3	"		MW-2A								X	X	X	X	X	X	X	X							
-4	"		MW-3								X	X	X	X	X	X	X	X							
-5	"		MW-3A								X	X	X	X	X	X	X	X							
-6	"		MW-4								X	X	X	X	X	X	X	X	X						
-9	"		MW-13								X	X	X	X	X	X	X	X							
-10	"		MW-13D								X	X	X	X	X	X	X	X							
-11	"		MW-14								X	X	X	X	X	X	X	X							

Comments:

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time
[signature]	3/14/03	2:50 pm	[signature]	3/14/03	1445						
Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Method of Shipment			Bill of Lading		
Received for Laboratory By	Date	Time	Date Package Relinquished By	Date	Time	Date Received By	Date	Time	№ 17877		
[signature]	3/17/03		[signature]	3/24/03	800						

K00004202

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Telephone 616-364-7600
Fax 616-364-4222
lab@preinnewhof.com

Client: Prein & Newhof
Project Name: Consumers Energy
Project #: 97603X
Send Results to: Klan
Sampling Personnel: 11

CHAIN OF CUSTODY

Air	A
Drinking Water	D
Groundwater	W
Soil	S
Sludge	L
Oil	O
Other	X

Lab Use	Sample Information				Preservative						Analysis Requested															
Lab Sample ID #	Date	Time	Sample Description and Location (e.g. MW-1)	MATRIX	None	H2SO4	HNO3	HCl	NaOH	Other	BTEX	TMBs	1,2-DCA	Naphthalene	MTBE	EDB	2-methyl	diss. Pb	COD							
-12	3-14-03		T-101S	W			X	X			X	X	X	X	X	X	X	X								
-13	11		T-101D	11			X	X			X	X	X	X	X	X	X	X								
-14	11		T-102S	11			X	X			X	X	X	X	X	X	X	X								
-15	11		T-102D	11			X	X			X	X	X	X	X	X	X	X								
-16	11		T-103SD	11			X	X			X	X	X	X	X	X	X	X	X							
1178-7	3-13-03		MW-12A	W			X	X			X	X	X	X	X	X	X	X								
-8	3-13-03		MW-12B	11			X	X			X	X	X	X	X	X	X	X	X							

Comments:

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time
[signature]	3/14/03	2:45pm	[signature]	3/14/03	1445						
Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Method of Shipment			Bill of Lading		
Received for Laboratory By	Date	Time	Date Package Relinquished By	Date	Time	Date Received By	Date	Time			
[signature]	3/17/03		[signature]	3/24/03	800				№ 17888		

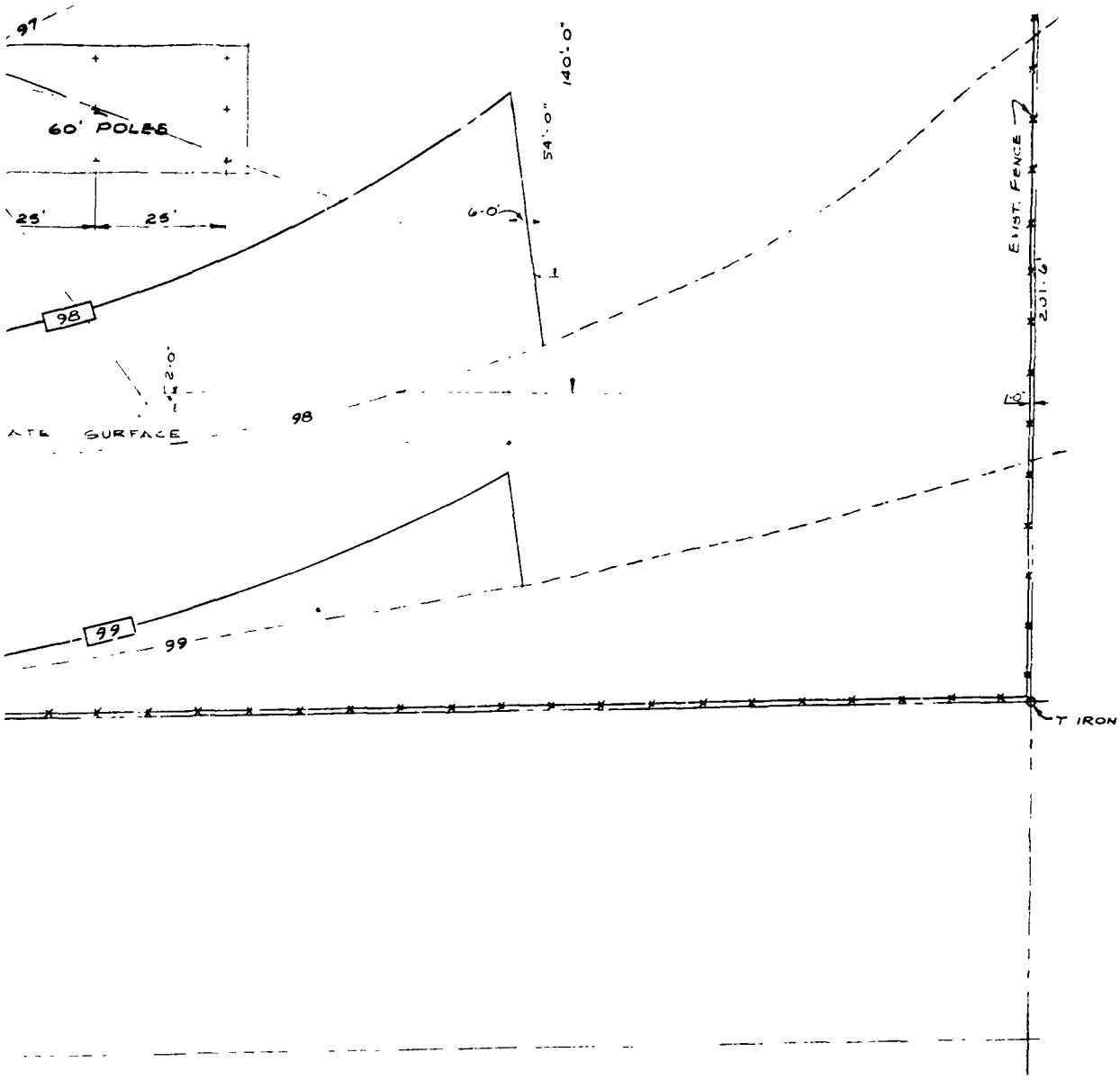
K00004203

ALLEGAN SERVICE CENTER

EXHIBIT 4

1969 SITE PLAN

K00004204



LEGEND

- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- SANITARY SEWER
- W — WATER LINE
- T — TELEPHONE SERVICE
- CATCH BASIN
- G — GAS LINE
- TREE
- 99 — NEW ELEV.
- NEW BIT. PAVING
- AGGREGATE SURFACE
- YARD LIGHT FOUNDATION
- OWP — WOOD POLE

NORTH

K00004205

	OWNER AND LOCATION	TITLE			
GISTRATION NO GISTRATION NO FICES OF H ASSOCIATES INC. AVE. JACKSON, MICH	CONSUMERS POWER COMPANY JACKSON MICHIGAN ALLEGAN SERVICE CENTER	SITE PLAN ALLEGAN SERVICE CENTER			
		JOB NO 001-359-031	DRAWING NO. M-3098-G1	SHEET 1	REV. E

PRINTS SENT AP

ALLEGAN S.C.

To RBEldridge, Kalamazoo

From EJThallman, H-807A, Jackson EJT

Date August 12, 1986

Subject REPORT ON TRANSFORMERS SERVING COMPANY OFFICE AND SERVICE CENTER FACILITIES

CC DGMcClelland, H-818B
LLJones, Kalamazoo
RWKoerkel, H-825
BWRasher, P-12-103
ACSchuknecht, M-462A

CONSUMERS POWER COMPANY

Internal Correspondence

In late 1984 and early 1985, the GO Facility Department requested information from the Regions and General Office on all transformers serving our office and service buildings, or on other transformers that might be located on office or service center sites which would become the responsibility of facility personnel in the event of a failure (fire or leakage). This information was requested in anticipation of proposed new federal regulations on PCB transformers and to update information in our files.

The Federal Regulations which went into effect August 16, 1985, applied to PCB transformers (above 500 parts per million) only. A copy of a synopsis of the new regulations prepared by B W Rasher of the Environmental Department, is attached for your reference.

Based on the information we have received to date, and on previous records, we can report that we do not have any PCB transformers currently identified on our sites or serving our office or service buildings.

Since 1983, a considered effort has been made to eliminate not only PCB, but PCB contaminated transformers (transformers with a tested PCB level of between 50 and 500 parts per million) which have been reported to us and over which Facilities would have some degree of control or clean-up responsibility in the event of a failure. The question may be asked "why are we concerned with PCB containimated transformers when Federal regulations do not consider them to be risks to public health". There are several reasons why we have been working to eliminate PCB contaminated transformers from our sites.

1. Research conducted by EPRI shows potential damage by contamination as a result of incomplete combustion in case of a transformer fire. Conversely, chances of contamination from a fire involving transformers of less than 50 parts per million are nil.

2. It has been estimated that clean-up costs for a leak from PCB contaminated transformer would run as high as $5,000 versus clean-up costs of, perhaps, $1,000 for a leak from a non-contaminated transformer.

3. In 1983, a management decision was made that we did not want to risk possible contamination and that we wanted to be out from under any regulations concerning PCB transformers serving Facilities sites.

K00004206

IC0886-0007F-F004

All of the above, notwithstanding, we are forwarding herewith a copy of our latest information dated August 12, 1986 on Facilities related transformers in your Regions. As you can see, all transformers that have been reported to us show PCB test levels of less than 50 parts per million and are, therefore, considered non-contaminated.

Southwestern

Building	Transformer Manufacturer	RATING Ident Number	KVA	Secondary Voltage	Transformer Type	Transformer Owner	Lab Test PCB Level PPM	Remarks
Kalamazoo	Line Material	F2280401	750	480/277	Pad Mt Oil	Building	9	
Battle Creek	Westinghouse	C40881-1-1	1500	480/277	Pad Mt Oil	Building	0	
Albion	Kuhlman			120/240	Pole	Utility	5	
Allegan	McG Edison	72ZD929001	100	120/240	Pad Mt Oil	Building	5	
Allegan Annex	McG Edison	69Z2878001	75	480/277	Pad Mt Oil	Building	5	
Bronson	None					Utility		Off-Site
Hastings	Westinghouse	78J808263	75	120/208	Pad	Building	5	
Marshall	GE	F463516604		120/240	Pad Mt Oil	City Marshall	5	

K00004208

[redacted] EPA // KALAMAZOO SERVICE CENTER

KAZOO S.C

- STorage Tanks
- sewers
- site drainage
- 4/1 Questionaire (NEUMANN)

KALAMAZOO SERVICE CENTER
VCCappell, RGNeumann

INFORMATION REQUESTS

1. Identify all persons consulted in the preparation of your responses to these Information Requests.

Anthony M. Aurino,	Environmental Compliance Consultant, Business Services Dept
Verne C. Cappell:	Senior Portfolio Mgr, Business Services Dept
Stacy M. Lahr	Technical Assistant, Business Services Dept
Robert G Neumann PE	Senior Engineer, Environmental & Technical Services Dept
Patrick S. Zombo	Senior Environmental Planner, Environmental & Technical Services Dept

2. Identify all documents consulted, examined, or referred to in the preparation of your responses to these Information Requests, and provide copies of all such documents. If, in lieu of or along with a textual response to any specific Request, you refer to a document that you believe contains information responsive to that Request, you must identify the specific location (page number, paragraph number) in the document where responsive information can be located.

See General Objections
In addition to other documents noted elsewhere in the Company's response, the following are attached.

Exhibit 1: September 19, 1991 500 Gallon Used Oil (Tank #1) UST Site Closure Report
Exhibit 1A: November 13, 1991 MDNR (MDEQ) Closure Acknowledgement
Exhibit 2: September 25, 1992 4,000 Gallon Diesel UST System Site Investigation and Closure Report
Exhibit 2A: July 30, 1993 MDNR (MDEQ) response (denial)
Exhibit 2B: September 28, 1993 Consumers response to
Exhibit 2C: October 27, 1993 MDNR (MDEQ) closure concurrence
Exhibit 3: October 24, 1994 Closure Request – UST System #2
Exhibit 3A: November 4, 1994 MDNR (MDEQ) closure acknowledgement
Exhibit 4: September 24, 1996 Final Assessment Report Kalamazoo Service Center
Exhibit 5: May 8, 1998 Seventh Quarter Groundwater Monitoring Report
Exhibit 6: September 22, 1998 UST Closure Report Gasoline/Diesel
Exhibit 6A: November 30, 1998 MDEQ closure report acknowledgment
Exhibit 7: Site/building drawings
Exhibit 7A: Drawing M-3084-G2 (1964 revision) – Grading and Drainage
Exhibit 7B: Drawing M-3084-G304 (1964 Revision) – Loading Area and Garage Plumbing
Exhibit 7C: Drawing M-3084-G306 (1964 Revision)- Garage Piping

K00004209

3. If you have reason to believe that there may be any person able to provide a more detailed or complete response to any Information Request, or who may be able to provide additional responsive documents, identify any and all such persons.

None Known

4. Identify and generally describe each Consumers Energy facility at or near the Site, as that term is define in Attachment 3 (Definitions). For each Consumers Energy facility, provide:

a. the address of the facility;

Consumers Energy Company
Kalamazoo Service Center
2500 E. Cork Street
Kalamazoo, MI 49001

b. past/present EPA ID numbers, RCRA numbers and NPDES numbers for the facility; and

RCRA ID number MID 981534712

c. the current owner of the facility

Consumers Energy Company
One Energy Plaza
Jackson, Michigan 49201

5. Identify all prior owners and operators of each facility and their dates of ownership and/or operation.

The facility was constructed for Consumers Power Company (now Consumers Energy)

6. Provide copies of all local, state, and federal environmental permits ever granted for each facility or any part thereof (e.g., RCRA permits, NPDES permits, etc).

None known

K00004210

7. For each facility, identify and describe all types of monitoring reports, monitoring data, and documentation sent to or received by federal or state regulatory authorities regarding any materials containing hazardous substances used, generated, stored, treated or disposed at or from the facility.

See Kalamazoo Service Center Exhibits 1 through 6A listed under Question 2, regarding former underground storage tanks.

See EPCRA Tier II reports at pages K3425-K3468

See RCRA Bienneial reports at pages K3634-3656

See Waste manifest lists and documents at K3796-K3824 shipments to central storage
K3877-K3883 list all manifests
K3891-K3951 – PCB manifests

8. Identify and describe the nature of all past and current operations and production processes at each facility. Identify, if available, all current and previous SIC codes associated with each facility.

This is an office facility with a vehicle equipment repair area. The primary functions are utility bill processing and collection, utility engineering design services, customer contact and information services, utility crew working and reporting field headquarters and general administrative functions, such as accounting, pay roll and mail services. An equipment/vehicle repair function is at the facility to perform routine maintenance of utility service vehicles. Both electricity and natural gas are sold in this service area. SIC Code 4931 Electric and other services combined (Since the electric services are barely more than half, this is sometimes reported as two SIC Codes, SIC Code 4911 – electric services and SIC Code 4924 – Natural Gas Distribution.)

9. Identify each product produced at the facility. Further identify the mass quantity of each product produced on an annual basis.

The Kalamazoo Service Center is not a production facility.

10. Identify and describe any and all activities or efforts to take production facilities out of operation, and include the dates of each such activity or effort.

None

K00004211

11. For each facility, identify and provide any data, estimates, analyses or other information regarding any material used, treated, stored or disposed that contained or may have contained PCBs. To the extent available, provide all such data, estimates, analyses or other information on an annual basis.

See pages K3796 to K3824 for shipments of PCB waste from the Kalamazoo Service Center. The Company's practice has been that some PCB shipments are made directly from the point where PCB waste is generated, and other PCB materials are brought to the service center and then shipped to the Company's Central Storage Facility in Jackson, Michigan. There it is consolidated and forwarded to the ultimate disposal location. The exact territory served from Kalamazoo has varied from time to time. Material shipped from Kalamazoo may or may not have originated in the Kalamazoo River watershed.

In addition, the facility manages various electrical equipment, which sometimes may contain PCB. The number of pieces in the service center at any one time is small, and varies from time to time. We do not have historic inventories. The service center is not believed to currently have on hand any equipment which is known to contain PCB at regulated levels.

12. For each facility, identify any data, estimates, analyses or other information regarding the concentration of PCBs in any material used, treated, stored or disposed there. To the extent available, provide all such data, estimates, analyses or other information on an annual basis.

See Response to Question 11.

K00004212

13. To the extent not already provided in response to Request #11, provide the following information:

a. the type and quantity, on an annual basis, of any oils or other lubricants used, treated, stored or disposed at each facility that are known or suspected to have contained PCBs;

Unknown. The facility is not suspected to have used any lubricants containing PCB. Any PCB present would normally be either inside intact non-leaking electrical equipment or other containers in good condition.

b. the number, handling and disposition of all transformers and conductors at each facility; and

Transformers are carefully managed to ensure they remain in good operating condition. Transformers are either used in the Company's electric distribution system or sent to the Company's transformer repair shop in Alma, Michigan for disposition. Previously, the transformer repair shop was located in Grand Rapids, Michigan. The annual number coming from Kalamazoo is not known.

One pad-mounted transformer is in service at the Kalamazoo Service Center. An August 12, 1986 memo from EJThallman to RBEldridge reports the PCB content as 9 ppm.

c. data, analysis and other information regarding leaks, discharges or other releases from any transformer, conductor other equipment using oils or lubricants at each facility.

There are no known PCB leaks or spills at the Kalamazoo Service Center.

June 8, 1988 approximately 12 gallons of Garlon 4 Herbicide spilled. The spill was contained on concrete and cleaned with oil-dry. See page K1633 for report.

May 8, 1991, approx 5 gallons of a non-PCB oil-water mixture (cleaning waste) was spilled. Less than ½ gallon entered a storm drain. The Company controlled the release with an absorbent boom placed further down the storm drain to remove the light sheen from the drain water. See page K1551-K1552 for report.

May 20, 1993, a small spill of gasoline was contained in a building, except for about 1.5 gallons which got to the building floor drain and separator pit. Absorbent was used on the floor and in the pit. The POTW was notified immediately. See pages K1537-K1539 and pages K2416-K2417 for report.

June 12, 1999, approx 20 gallons of used motor oil was spilled from the used motor oil tank. The spill was contained with oil-dry and a contractor was called to remove oil from the tank and complete the cleanup. See pages K1396-K1398 and K2251-K2251 for report.

K00004213

See Response to Question 2 for documents related to non-PCB storage tank releases.

14. To the extent not already provided in response to Request #12, identify any data, estimates, analyses or other information regarding the concentration of PCBs in the materials identified in your response to Request #13.

None known.

15. Describe the procedures used by you or anyone on your behalf to test PCB concentrations in the materials identified in your response to Requests #11 and #13, above. Include in your response test methods and dates.

Unknown.

16. Describe the procedures followed by you, or anyone on your behalf, to prevent, mitigate or address the release or threat of release of any material identified in your response to Requests #11 and #13, above.

The Company has standard practices for the prevention and response to releases. Specific actions taken are listed in the response to question 13.

K00004214

17. Provide a figure delineating the groundwater flow direction on your property.

The following references are related to the former underground storage tank removals/remediation projects and, thus, the information is limited to the groundwater elevations near the service center building and may not be indicative of the entire site.

See Exhibit 4, Figure 11-A (upper groundwater) and Figure 11-B (lower groundwater); and
Exhibit 5, Figure 2 (upper groundwater) and Figure 3 (lower groundwater)

18. Identify the depth(s) to groundwater at your property.

Groundwater depth is approximately 17 feet below existing grade in the vicinity of the Service Center building. Depths elsewhere are not known.

19. For each production process at each facility, identify and describe each waste stream from its creation to final disposition.

The site is not a production facility.

K00004215

20. For each facility, identify all past and present waste units (e.g., underground storage tanks, aboveground storage tanks, waste piles, landfills, surface impoundments, lagoons, dry wells, septic systems, floor drains, ponds, pits, machine pits, container storage areas). For each such waste unit identified, provide the following information:

a. The location of all past and present waste units whether currently in operation or not.

Exhibit 7A and 7C indicate the location of past used oil underground storage tanks.

Exhibit 7C indicates the location of an oil/water separator in the garage

b. The type of unit (e.g., underground storage tank, lagoon, dry well, etc).

Underground Storage Tank(s):	Current:	None
	Past:	500 gallon used oil
		500 gallon used oil

Aboveground Storage Tank(s): Current: 500 gallon used oil

Oil/water separator: Size unknown

c. The dates that the unit was in use.

Underground Storage Tanks- both used oil:	1965 to 1991
Aboveground Storage Tank:	1991 to present
Oil/water separator :	1965 to present

d. The purpose of past and/or present usage (e.g., storage, spill containment, waste disposal).

All USTs and the above-ground tank were used for storage.

The Oil/water separator was used for vehicle oil spill containment in the garage.

e. The quantity and type(s) of materials (e.g., manufacturing materials, wastes, hazardous substances, pollutants and containments) located in each unit.

Past underground used oil tanks and current above ground tank stored oil recovered from vehicle engines.

Current Oil/Water Separator: Accumulates oily water from garage floor.

f. If the unit is no longer in use, describe how was such unit closed, and what actions were taken to prevent or address potential or actual releases of waste constituents from the unit(s). Include all analytical data from such closure.

Underground used oil tanks were closed by removing the tanks from the ground. See Exhibits 1 and 3 regarding the removal and closure of the underground used oil tanks.

21. For each facility, identify any data, estimates, analyses or other information about the presence of PCBs in each waste stream created. To the extent available, provide such information on an annual basis.

No PCB was detected in soil or groundwater in the area of the former waste oil tanks or the former diesel tank.

See non-detect reports for Kalamazoo Service Center
Exhibit I (waste oil UST), Table I, at Page 16 of the report,

Exhibit II (Diesel Oil UST) tables 1 and 2 and lab reports at the back of Exhibit II,

Exhibit III (Waste Oil UST #2) lab reports,

See also responses to question 11 and 13 for further information.

22. For each facility, identify any data, estimates, analyses or other information about the concentration of PCBs in each waste stream created. To the extent available, provide such information on an annual basis.

See responses to questions 11, 13, and 21, above.

23. For each facility, describe the procedures used by you, your predecessor(s), or anyone on behalf of you or a predecessor, to test the PCB concentration in each waste produced, stored, treated or disposed at that facility. Include in your response test methods, media tested, and dates.

See responses to questions 11, 13, and 21, above.

24. For each facility, identify each off-Site location at which wastes that contained or potentially contained PCBs were disposed. Further identify the dates of each such off-Site disposal, and the nature, quantity and PCB concentration of any such wastes.

PCB Wastes were disposed at the following locations:

Rollins Environmental Services	Deer Park, TX
CWN Chemical Services, Inc.	Model City, NY
Great Lakes Environmental Services	Warren, MI
Chemical Waste Management, Inc.	Emelle, AL
Environmental Recycling	Bowling Green, OH
Wayne Disposal, Inc.	Belleville, MI

In addition, some mineral oil was taken to the Consumers Energy Alma PCB mineral oil storage facility, where it was treated by a contractor using a mobile PCB disposal process, such as the PCB-X process to destroy the PCB.

See response to question 11, above for further information.

K00004217

25. For each facility, and for each waste produced, stored, treated or disposed at that facility:

a. identify the PCB concentration of any waste;

See response to question 11, 13 and 21 above.

b. if the waste contained detectable concentration of PCBs, describe each occasion on which a release of such waste occurred or threatened to occur; and

None known.

c. describe the procedures and measures taken by you, or anyone on your behalf, to prevent, mitigate or address the release or threat of release of PCBs or other hazardous materials.

The Company has standard practices for the prevention and response to releases. However, no PCB releases are known to have occurred at this facility. See the response to question 13 for response to specific releases.

26. For each release described in response to Request #25 above, describe the quantity of PCB-contaminated wastes that were released or threatened to be released, and state whether any PCBs contained in the wastes contributed to the presence, or threatened to contribute to the presence, of PCBs in the Kalamazoo River.

There were no known releases of PCB-contaminated waste at the facility.

27. For each facility, identify any data, estimates, analyses or other information about the history of flooding, or any other infiltration of water, from the Kalamazoo River.

None known.

28. To the extent not provided in your response to Request #19, describe each wastewater stream, waste oil stream, and wastewater/waste oil mixture stream at each facility, from its creation in the production process to final discharge point. In your response include a complete description of the fate of any wastewater stream, waste oil stream, and wastewater/waste oil mixture stream produced at each facility (e.g., on-site treatment, discharge to a POTW, discharge to a storm sewer outfall, direct discharge to the Kalamazoo River).

There are no production processes at the site.

Sanitary wastewater is discharged to the Kalamazoo POTW.

As indicated in #19, used oil from vehicle maintenance is piped to aboveground storage tanks (historically underground storage tanks were used).

The garage area has an oil/water separator that collects floor drainage from within the garage area. Separated oil is collected for disposal. Currently, the separated water is discharged to the Kalamazoo POTW. Historically, the separated water was discharged to the site storm water drainage system.

29. To the extent not provided in response to Requests #19 and #28, identify the quantity of all (a) wastewater, (b) waste oil, and (c) wastewater/waste oil mixture produced, on a monthly basis, from each production process at each facility.

There are no production processes at the facility.

See discovery pages K3877-K3883 for a listing of quantities of waste disposed, and disposal facility by shipment. PCB shipments to Central Storage are found at pages K3796-K3824. Manifests are found at pages K3891-K3951. Quantities of waste water sent to the POTW are not known.

30. To the extent not provided in response to Requests #21 and #22, identify any data, estimates, analyses or other information about the presence and/or concentration of PCBs in the wastewater, waste oil and wastewater/waste oil mixture produced from each production process at each facility. To the extent available, provide such information on a monthly basis.

None known.

31. For each facility, identify any data, estimates, analyses or other information regarding the effectiveness of the treatment system(s) at that facility, if any, to remove PCBs from each wastewater stream, waste oil stream and wastewater/waste oil mixture stream.

No PCB treatment system at the facility.

32. Identify any data, estimates, analyses or other information regarding procedures and measures taken by you, or by anyone on your behalf, to prevent, mitigate or address the release or threat of release of PCBs from wastewater, waste oils, or wastewater/waste oil mixtures to the Kalamazoo River.

The Company has standard practices for the prevention and response to releases. However, no PCB releases are known to have occurred at this facility.

33. For any POTW identified in response to Request #28, provide, for each facility and on a monthly basis, all information regarding the amount of wastewater, waste oil and wastewater/waste oil mixture discharged to a POTW, the concentration of PCBs in the wastewater, waste oil and wastewater/waste oil mixtures discharged to the POTW from that facility and, to the extent such information is available, the PCB concentration in the effluent from the POTW.

No analytical data is generated for the sanitary sewer from the Service Center Building. There is no known potential source of PCB for the discharge to the sewer. The Company has no knowledge of the effluent from the POTW.

34. For each facility, identify each pipe, conduit, storm sewer, sewer line or other outfall that, directly or indirectly, terminates in the Kalamazoo River or its tributaries, past or present, into which treated, untreated or bypassed wastewater, waste oil, or any other waste (including wastewater/waste oil mixtures), from that facility was discharged. Include a figure identifying the source and location of each pipe, conduit, storm sewer, sewer line or other outfall.

See Exhibit 7A and 7C: See response to question 13, above, with respect to potential releases of non-PCB waste to drains. In addition, there is the potential that some dissolved material may have gone to drains with the water that comes from the oil/water separator.

35. For each pipe, conduit, storm sewer, sewer line or other outfall identified in your response to Request #34, identify dates of use and each outfall's source at the facility. Further provide, on a monthly basis, the volume of wastewater, waste oil or other waste

(including wastewater/waste oil mixtures) discharged from the facility into each pipe, conduit, storm sewer, sewer line or other outfall.

Monthly quantities and other requested information are unknown.

36. For each pipe, conduit, storm sewer, sewer line or other outfall identified in response to Request #34, identify all influent and effluent quality data. Include to the extent such information is available, the PCB concentration of all influent and effluent, on a monthly basis.

No data available.

37. For each pipe, conduit, storm sewer, sewer line or other outfall identified in response to Request #34, identify all bypasses or spills into the Kalamazoo River or its tributaries.

None known.

38. For each facility, identify any data, estimates, analyses or other information regarding the mass quantity of PCBs disposed into the Kalamazoo River as a result of wastewater, waste oil or wastewater/waste oil discharges from the production processes. To the extent available, provide such information on an annual basis.

The Kalamazoo Service Center is not a production facility. There is no known discharge of PCB into the Kalamazoo River from the facility.

39. For each facility, identify any data, analyses or other information regarding the nature and quantity of hazardous substances, including PCBs, in the sediments, soil, groundwater and surface water at that facility. Identify the concentration levels of PCBs for all samples collected at the facility or at any property abutting the facility.

See the Exhibits referenced in response to Question 2, above.
No PCB was detected in any samples tested for PCB in these Exhibits.

40. For each facility, provide information regarding any environmental response activities involving or potentially involving PCBs or PCB-containing materials conducted at that facility, or on the Kalamazoo River, its tributaries, or other abutting property, at your direction or under your control. Indicate the date(s) on which such response activity was performed, what work was performed, the expenses incurred, the results of the response activity and, if it has not concluded, when the environmental response is expected to conclude.

None.

41. Have you incurred any costs associated with the investigation, remediation or other action to address contamination at the Site or any portion thereof? If yes, identify all costs incurred by you through the date of this Information Request.

No.

EXHIBIT 1

9-10-91

500 GALLON USED OIL (TANK #1) UST
SITE CLOSURE REPORT

K00004222

POWERING
MICHIGAN'S PROGRESS
General Offices 212 West Michigan Avenue Jackson MI 49201 • (517) 788-0550

September 10, 1991 M905

Mr Mark D DuCharme
Environmental Response Division
Michigan Department of Natural Resources
Plainwell District Headquarters
PO Box 355
Plainwell, MI 49080

KALAMAZOO SERVICE CENTER
500 GALLON USED OIL (TANK #1) UST
SITE CLOSURE REPORT

The enclosed Site Closure Report for confirmed releases at the Kalamazoo Service Center, reported to the State Fire Marshal on December 21, 1990, demonstrates that cleanup has been achieved at the used oil UST identified as Tank #1 (south). Corrective actions taken at this location were as described in the Site Investigation Work Plan of February 1, 1991.

All samples subsequently analyzed for BTEX, TPH, PNA(PAH), PCB, Lead, Cadmium, Chromium and MDNR Scan 1 are below acceptable criteria for used oil USTs. Therefore, no further corrective actions are necessary and a corrective action plan is not required. Sampling locations were consistent with MDNR Draft Guidelines entitled, "Verification of Soil Remediation," dated October 25, 1990.

In accordance with Michigan Compiled Laws Annotated, Chapter 299, Subsection 299.838(6), Consumers Power Company is requesting that the Michigan Department of Natural Resources execute a document stating that the corrective actions have been completed at this UST location.

The other used oil UST (Tank #2) addressed in the Site Investigation Work Plan will be reported under separate cover. Specifically, a revised site investigation work is being developed based upon the post-UST removal verification sampling.

If you have any questions, please do not hesitate to call me at (517) 788-0350.

Robert G Neumann, PE
UST Removal and Corrective Action Compliance Engineer
Environmental & Technical Services Department

K00004223

0C0991-0024A-EN01

BCC AMAurino, Lansing Annex
JPDickey, M-1019
JLWelch, P12-121
RCWhiting, H-826D

K00004224

SITE CLOSURE REPORT

KALAMAZOO SERVICE CENTER
2500 EAST CORK STREET
KALAMAZOO, MICHIGAN

550 GALLON UST SYSTEM
SOUTH USED OIL (TANK #1)

PREPARED FOR

CONSUMERS POWER COMPANY
212 WEST MICHIGAN AVE.
JACKSON, MICHIGAN 49201

DATE: JULY 24, 1991

PREPARED BY

McNAMEE INDUSTRIAL SERVICES, INC.
3135 SOUTH STATE STREET, SUITE 202
ANN ARBOR, MICHIGAN 48108

K00004225

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K00004226

1.0 PURPOSE AND OBJECTIVES OF THE CLOSURE REPORT

McNamee Industrial Services, Inc. (MIS), was retained by Consumers Power Company (CPCo) to conduct the environmental oversight and documentation of actions related to the removal of one (1) 550-gallon waste oil (wo) underground storage tank (UST) and related systems. The UST was located at the CPCo Kalamazoo Service Center building in Kalamazoo County, 2500 East Cork Street, Kalamazoo, Michigan. This report provides documentation, in accordance with Act 307 Rule 215(2), of the field activities, analysis, and interpretation that comprises the closure assessment. The UST was removed on May 6, 1991 by Terra Environmental Corporation of Kalamazoo, Michigan in accordance with API m1604, including supplemental and referenced publications described therein. The closure and site characterization, conducted by MIS, was performed in accordance with the Michigan State Underground Storage Tank regulations, effective January 2, 1991, governing UST site assessments and with the State of Michigan P.A. 478 of 1988 as amended, the Leaking Underground Storage Tank Act.

K00004227

2.0 SITE DESCRIPTION AND HISTORY

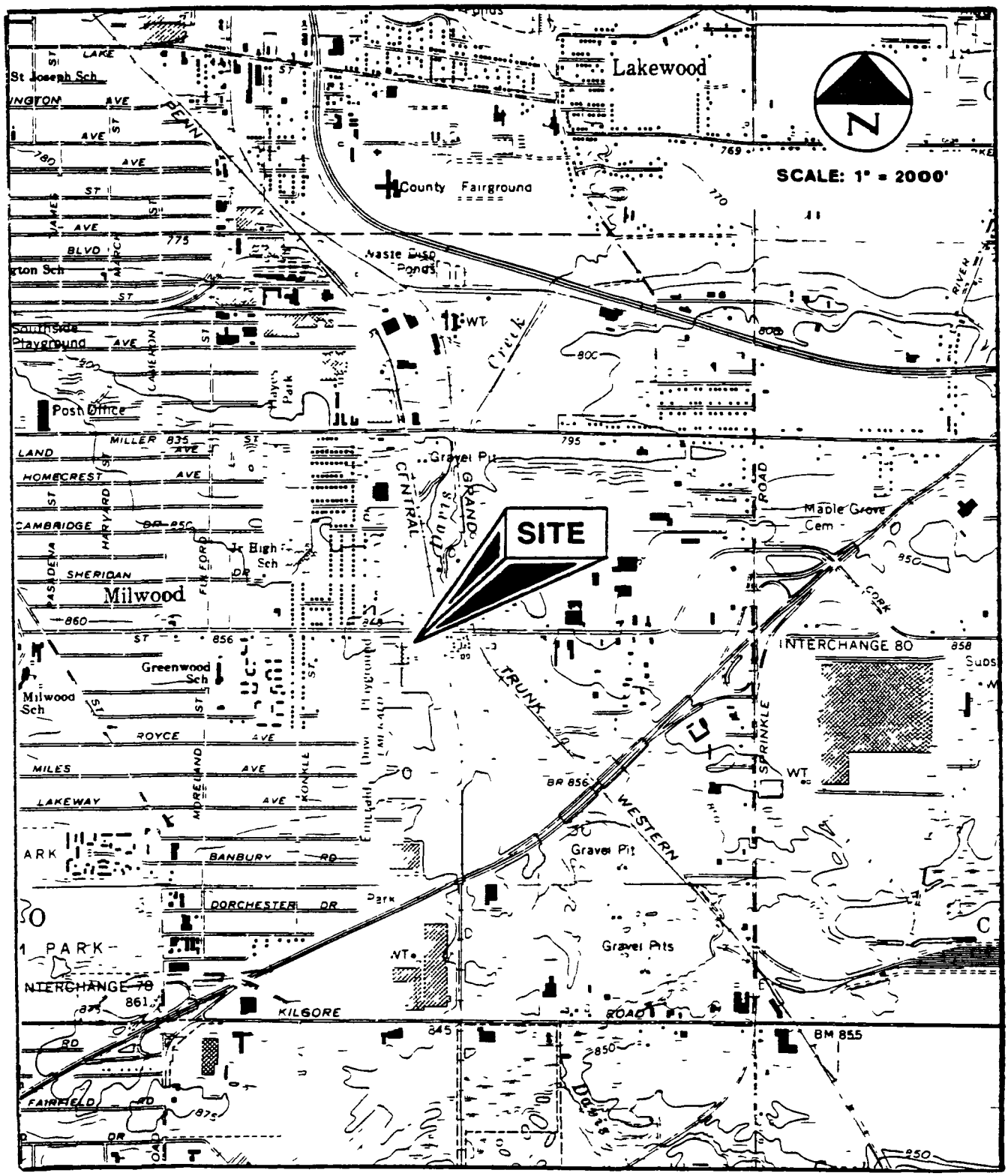
Kalamazoo is located in the central southwest portion of Michigan's lower peninsula, approximately 40 miles east of Lake Michigan. The general climatic condition in the Kalamazoo area is semi-marine trending toward continental. Kalamazoo's average rainfall is 34.4 inches per year.

The Kalamazoo Service Center is located on the southeast corner of the intersection of Cork Street and Emerald Drive, City of Kalamazoo, in the SW 1/4 section 25, T.2S., R.11W., Kalamazoo Quadrangle, Kalamazoo County, Michigan (Figure 1).

2.1 BEDROCK GEOLOGY

The bedrock underlying the site has been defined as the Coldwater Formation (WMU 1981). The Coldwater Formation is generally comprised of gray shale with some limestone, dolomite, siltstone, and sandstone interbeds (Libenthal, 1978). The unit averages 1100 - 1250 feet in thickness in the east and central parts of the state, and thins to 500 - 600 feet to the west. The Coldwater Formation can be expected to be approximately 450 feet thick near the site, and over 1200 feet thick around the "thumb" area, where the sandstones of the Coldwater Formation are adequate aquifers. The Coldwater Formation part of the Mississippian Aquifer system.

K00004228



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ANN ARBOR, MICHIGAN

ADAPTED FROM USGS
KALAMAZOO AND
PORTAGE QUADRANGLES

QUADRANGLE LOCATION

FIGURE 1
CONSUMERS POWER, KALAMAZOO
KALAMAZOO SERVICE CENTER
SITE LOCATION MAP

K00004229

2.2 GLACIAL GEOLOGY

The glacial drift in Kalamazoo County is comprised of a complex series of sand, gravel, and clay deposits. The site is located on a regionally extensive outwash plain (WMU 1981) in central Kalamazoo County. The thickness of the drift cover in this area can be expected to range from 150 to 200 feet.

Glacial deposits underlying the site are typically described as outwash deposits. These outwash deposits are comprised of cobble stone, coarse to fine gravel, coarse to fine sand, some silt, and traces of clay. The cobble stone and gravel are sub-rounded to rounded, and the sand fractions are sub-rounded to sub-angular. These deposits have the appearance of being cross-bedded and stratified (Plate 1).

K00004230

A) VIEW OF SOUTH SIDEWALL
NOTE APPEARANCE OF BEDDING
AND LARGE COBBLE STONE

B) VIEW OF SOUTHWEST/WEST WALL
NOTE DIP OF BEDS, CENTER OF PHOTOGRAPH

PLATE 1

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CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN

K00004231

3.0 NATURE AND EXTENT OF THE RELEASE

The 550 gallon steel, and asphaltic coated UST served as a storage tank for used engine oil. The tank is approximately 26 years old and was installed in approximately 1965.

The tank was located adjacent to the Kalamazoo Service Center building, on the south side on the building (Tank 1). Figure 2 depicts the location of the tank in relation to the service center and other site features.

As reported in the initial abatement report of January 10, 1991, a hydrocarbon release was discovered and reported on December 21, 1990 during a preliminary site investigation (November 1990) of the soil during preparations to remove the UST system. There were no records of any release of the stored oil, however Total Petroleum Hydrocarbon (TPH) concentrations ranging from 34 ppm to 5900 ppm were detected in the soil. Subsequently, the waste oil tank was tagged for non-use, and emptied on December 22, 1990, in order to mitigate any potential fire hazard or further release of oil. The quantity of the release was not known at this time (December 1990).

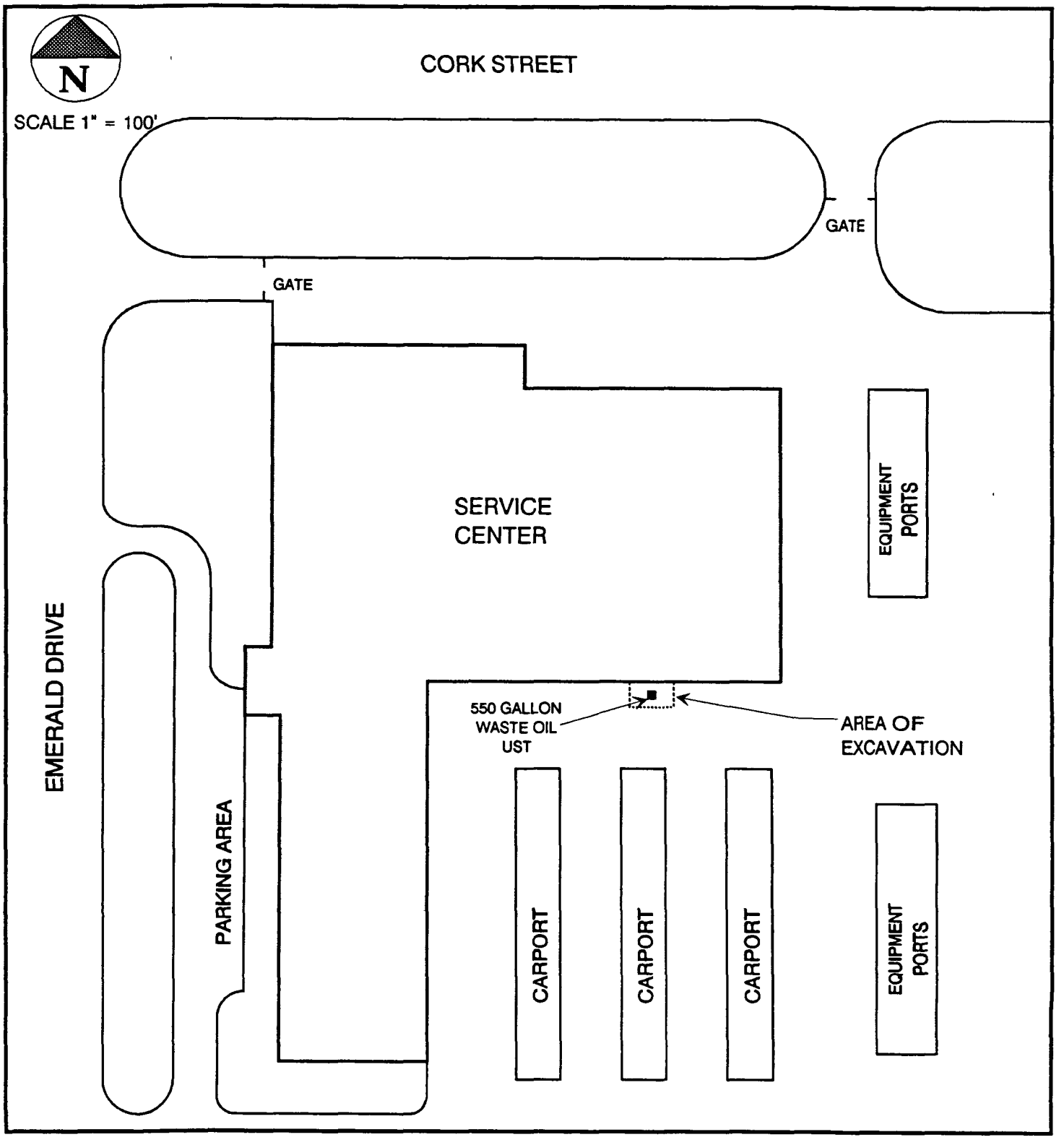

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FIGURE 2
CONSUMERS POWER, KALAMAZOO
KALAMAZOO SERVICE CENTER
SITE MAP

K00004233

4.0 DESCRIPTION OF RESPONSE ACTIVITIES

4.1 INITIAL SITE INVESTIGATION

During the course of a pre-removal site investigation of the UST system on December 21, 1990, the presence of a hydrocarbon release was noted in proximity to the 550-gallon waste oil UST. The SFM was notified of a confirmed release on the same day.

On May 6, 1991 representatives from MIS, CPCo and Terra Environmental were on site for the excavation of the 550-gallon waste oil UST. Terra was the general contractor responsible for the excavation and disposal of the tank, associated piping, overlaying pavement, and the excavated soils. A geologist from MIS was responsible for environmental oversight and sample collection, and a representative from CPCo acted as general site manager.

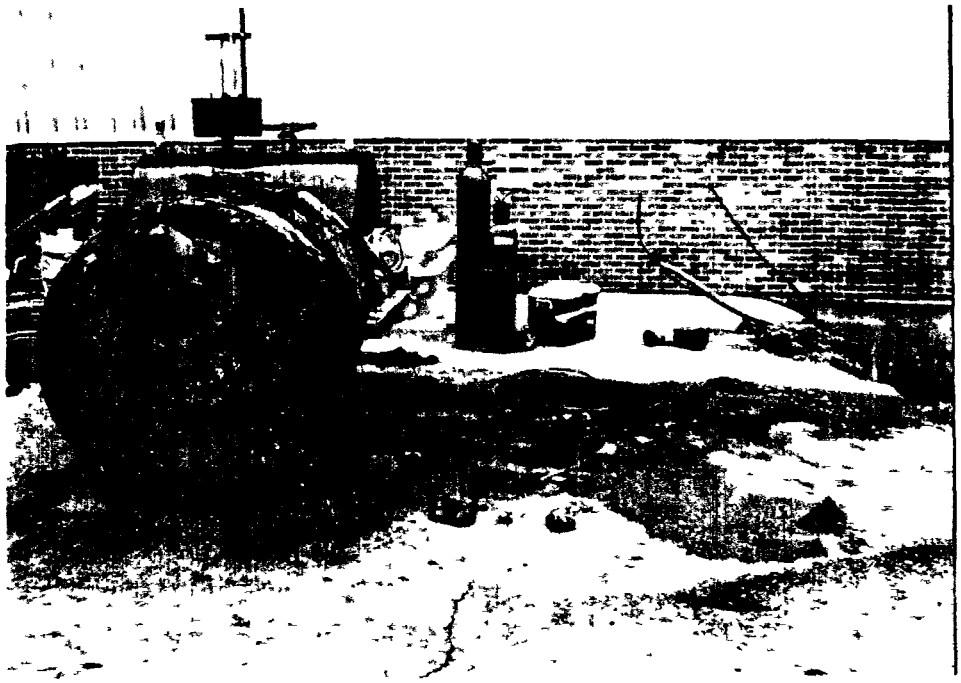
4.2 SOUTH WASTE OIL UST REMOVAL

Excavation of the 550-gallon waste oil tank located on the south side of the CPCo building (Tank 1), commenced on May 6, 1991 by removing a 10' X 15' X 4" area of asphalt and a 11' X 15' X 1' concrete pad over Tank 1. The excavation revealed that the soil adjacent to the side walls appears to be of the same lithology as the sidewalls of the excavation. Soil removed during the excavation consisted of cobble stone, coarse to fine gravel, coarse to fine sand, and some silt and clay (Plate 2). Approximately 186 cubic yards of soil was excavated and transported to C and C Landfill in Marshall,Michigan, which is owned and operated by Browning Ferris Industries (BFI). Waste manifests are provided as Appendix A.

Inspection of the UST revealed no corrosion and no areas where the tank's integrity was compromised (Plate 3). The release could have been a result of a spill near the fill line port as minor soil staining was evident in this area.

K00004235

A) TANK #1 EXPOSED WEST END
NOTE REMOTE FILL LINE



B) EXHUMED WASTE OIL TANK, NOTE CUT-OFF
END LYING ON ASPHALT TO RIGHT OF TANK

PLATE 2 K00004236

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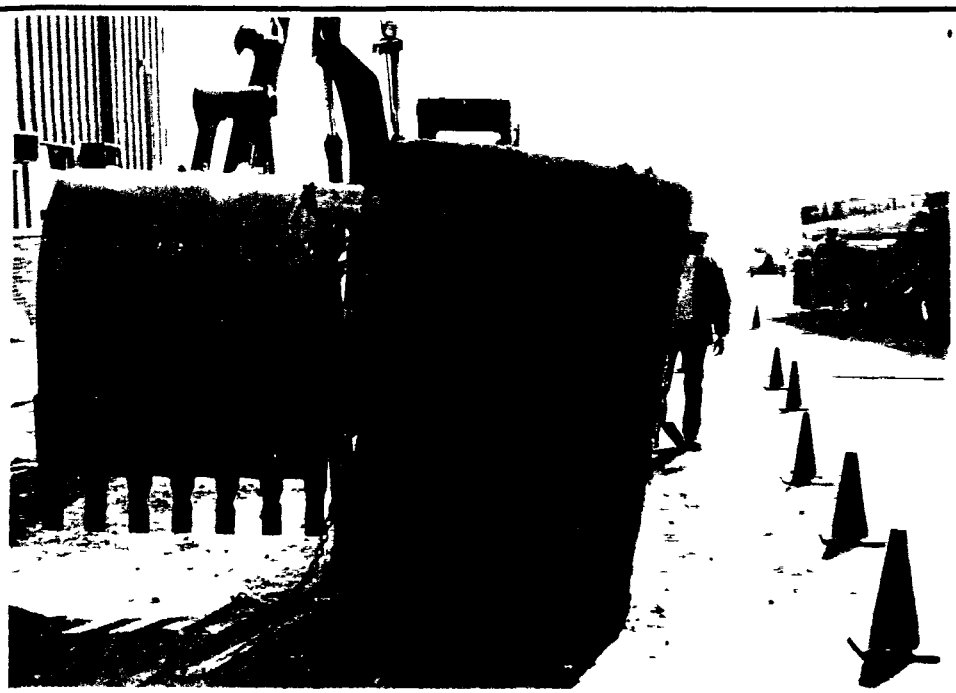
ANN ARBOR, MICHIGAN

CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN



A) TANK #1 EXHUMED AND PLACED ON END FOR INSPECTION

B) UST FULLY EXPOSED AND READY FOR REMOVAL
NOTE METAL STRAPS

PLATE 3

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CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN

K00004237

4.3 SAMPLE COLLECTION

To assess the environmental quality of the soil in the area of the UST, closure samples were collected from the sidewalls and floor of the excavation. Sampling was performed in accordance with MDNR and SFM guidelines (Verification of Soil Remediation, October 25, 1990). The following number of discrete soil samples were collected from the various areas of the excavation: 2 each from the floor, and the north wall; and 4 each from the south wall, and the west wall, and the east wall. Figure 3 depicts the excavated area and the sample locations.

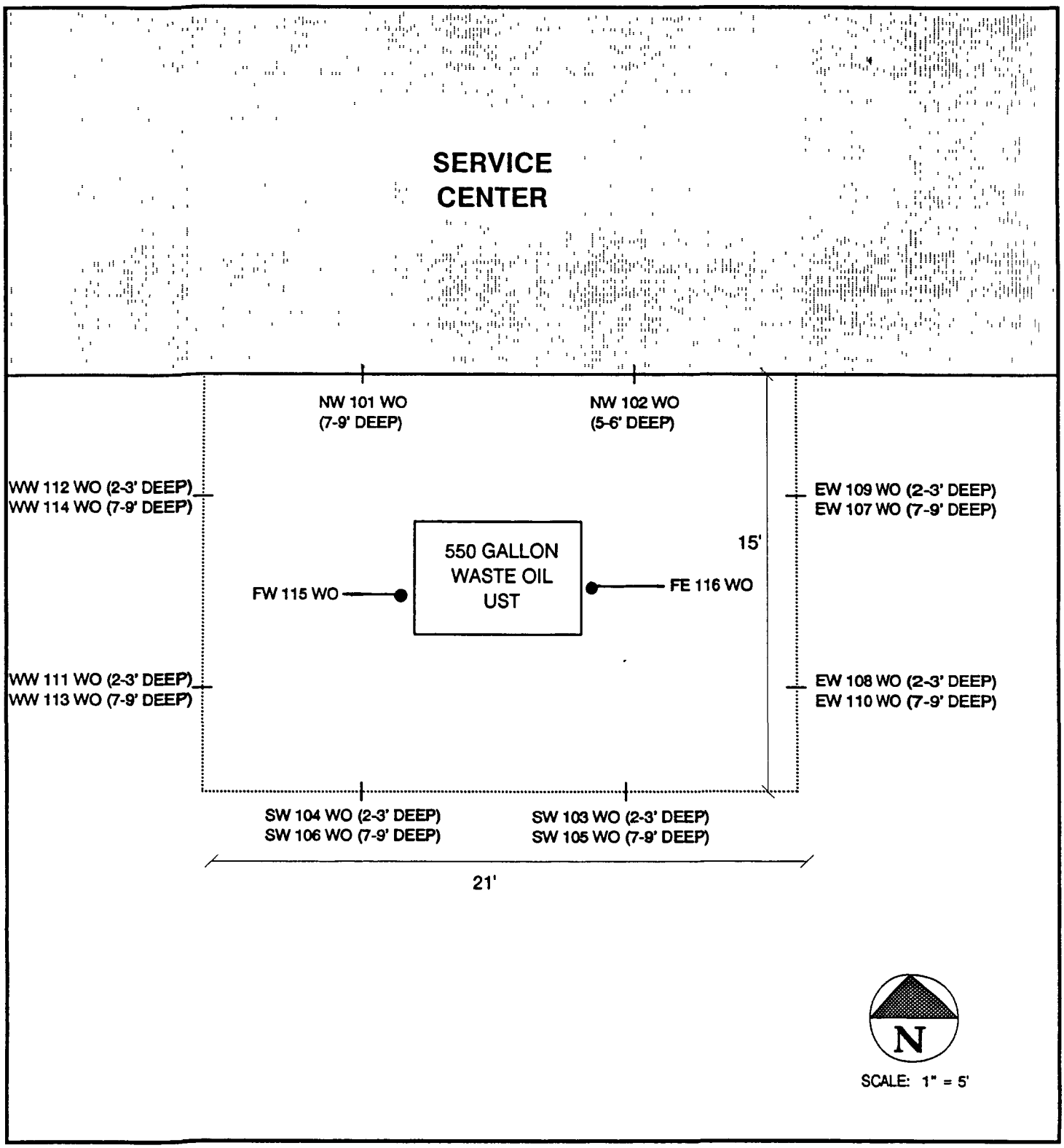
No groundwater was encountered during the excavation, therefore a "grid" pattern was implemented for sample collection. The sidewalls were divided into four equal subsections and soil samples were collected from each subsection.

Soil samples were collected from soil exhibiting odor or staining. If odor and staining were absent, then soil samples were collected along lithofacies of soil types if present. The floor of the excavation was sampled below and adjacent to the UST.

Sampling methodology included collection of the samples with a decontaminated, stainless steel hand shovel and packing of laboratory supplied bottles full with the soil sample. The bottle was then sealed with a Teflon lined lid, chilled, logged, and secured for transport, under strict chain-of-custody, to the analytical laboratory, Energy Supply Technical Services (ESTS), Jackson, Michigan. Chain-of-custody records and analytical laboratory results are found in Appendix B. Sampling was conducted by MIS on May 7, 1991

K00004238

Prior to sampling, the excavation was inspected for VOC's with a Photovac Microtip PID. If VOC's were detected, the soil in that area was excavated until that area was free of PID detectable VOC's. When non-detect conditions were obtained, the above sampling methodology was employed. In this manner, the general quality of the soil was determined, allowing the excavation boundaries to be defined by field conditions.



LEGEND

EXCAVATION BOUNDARY

SIDEWALL SAMPLE LOCATION

FLOOR SAMPLE LOCATION

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FIGURE 3
CONSUMERS POWER, KALAMAZOO
KALAMAZOO SERVICE CENTER
SAMPLE LOCATION MAP

K00004240

5.0 EFFECTIVENESS OF RESPONSE ACTIVITIES

5.1 SUMMARY OF RESULTS

To ensure that all impacted soil was removed during the excavation of the tank, discrete wall and floor samples were collected and submitted for laboratory analysis. The analysis included the Aromatic Volatile Organics (BTEX/Method 8021); Total Petroleum Hydrocarbons (TPH/USEPA Method 418.1 and Method 3550); Polynuclear Aromatic Hydrocarbons (PAH/Method 8100); PCB(Method 8080); and Lead, Cadmium, and Chromium (Methods 7421,7131, and 7191 respectively). MDNR Scan 1 was also included.

Analytical results indicate non-detectable concentrations of BTEX, PCB, PAH and the MDNR scan 1 parameters. The TPH concentrations ranged from 23 ppm to 34 ppm. It is concluded that the TPH results are due to natural hydrocarbons and are therefore considered background readings for this site.

Analysis indicates concentrations of Lead ranging from 1.7 ppm to 6.2 ppm, Cadmium from .01 to .16 ppm, and chromium from 5.1 to 15.5 ppm. These concentrations are at or below levels of Lead, Cadmium, and Chromium naturally occurring in the sandy soil throughout the Michigan lobe (Michigan Background Soil Survey). Table 1 summarizes the analytical data.

TABLE 1
SOIL SAMPLE
ANALYTICAL DATA

PARAMETER	TEST METHOD	MDL	UNITS	SAMPLE IDENTIFICATION															
				101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116
BTEX																			
Benzene	EPA 8021	10	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Toluene	EPA 8021	10	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Ethyl Benzene	EPA 8021	10	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total Xylenes	EPA 8021	10	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total BTEX	EPA 8021	10	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total Petroleum Hydrocarbons	METHOD 3550	10	mg/kg	28	29	23	34	28	28	27	24	24	23	27	24	23	23	29	29
	EPA 418.1																		
PCB's	EPA 8080	1	mg/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MDNR SCAN I			ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
PAH's																			
Napthalene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Acenapthylene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Acenapthene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluorene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Phenanthrene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Anthracene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Pyrene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)anthracene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)fluorantene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)fluoranthene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)pyrene	EPA 8100	330	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Indeno(123-cd)pyrene	EPA 8100	750	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(ah)anthracene	EPA 8100	750	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(ghi)perylene	EPA 8100	750	ug/kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOTAL METALS																			
Lead	METHOD 7421	4	ug/kg	4650	2040	3800	6200	3440	1900	1770	4190	3150	3140	3060	2130	2890	2610	3320	2350
Cadmium	METHOD 7431	4	ug/kg	46	10	39	53	20	27	33	160	23	53	45	19	44	84	24	19
Chromium	METHOD 7191	4	ug/kg	9660	5050	11700	15480	7950	8140	6140	6620	7190	9730	8810	7180	8430	6150	5690	6950

* nd = non-detect

K00004242

5.2 CONCLUSIONS

After excavation of the UST area soil samples were collected to assess the environmental quality of the soils in the UST area. Analytical results indicate non-detectable concentrations of BTEX, PCB, and PAH. Concentrations of Lead, Cadmium, and Chromium are at or below levels of these metals naturally occurring in the sandy soils (SP) throughout Michigan. It is concluded that no further sampling or monitoring of the excavation area is necessary.

K00004243

APPENDIX A

K00004244

BFI Waste Systems™
BROWNING-FERRIS INDUSTRIES

No. 729647

NON-HAZARDOUS SPECIAL WASTE MANIFEST

GENERATOR

Generator Name: Consumers Power Company
Address: 212 West Michigan Avenue
Jackson, MI 49201
Phone No. 517-7881073

Generating Location: /Kalamazoo Service Center
Address: 2500 East Cork Street
Kalamazoo, MI 49001
Phone No. 517-7881073

BFI Waste Code: MI 576 920415 68798

Description of Waste	Quantity	Units	Containers No.	Containers Type
Soil Contaminated with vehicle drain oil	00020	Y	01	T

Type: D - Drum; C - Carton; B - Bag; T - Truck; P - Pounds; Y - Yards; O - Other

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 GFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Aurino / Generator Authorized Agent Name — Tony Aurino / Signature — 050791 Shipment Date

TRANSPORTER

Truck No. 67-27
Transporter Name: Terra Environmental Corporation
Address: 5100 West Michigan Avenue
Kalamazoo, MI 49007

Phone No. 616-375-9595
Driver Name (Print): Richard Wright
Vehicle License No./State: RF 5793 /Michigan
Vehicle Certification

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature — 050791 Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature — 050791 Delivery Date

DESTINATION

Site Name: C and C Landfill
Phone No. 616-7819742
Address: 14450 P Drive North Marshall MI 49068

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Jay W. / Name of Authorized Agent — Jay W. / Signature — 050791 Receipt Date

PASS CODE: B21876

10/86

K00004245

BFI260-72

TRANSPORTER RETAIN

BFI Waste Systems™
BROWNING-FERRIS INDUSTRIES

No. 729648

NON-HAZARDOUS SPECIAL WASTE MANIFEST

GENERATOR

Generator Name: Consumers Power Company
Address: 212 West Michigan Avenue
Jackson, MI 49201
Phone No. 517-7881073

Generating Location: Kalamazoo Service Center
Address: 2500 East Cork Street
Kalamazoo, MI 49001
Phone No. 517-7881073

BFI Waste Code: MI 576 920415 68798

Description of Waste	Quantity	Units	Containers No.	Containers Type
Soil contaminated with vehicle drain oil	00018	Y	01	T

Type: D - Drum; C - Carton; B - Bag; T- Truck; P - Pounds; Y - Yards; O - Other

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

TONY AURINO — Generator Authorized Agent Name
Tony Aurino — Signature
050791 — Shipment Date

TRANSPORTER

Truck No. 6417-92
Transporter Name: Terra Environmental Corporation
Address: 5100 West Michigan Avenue
Kalamazoo, MI 49007

Phone No. 616-375-9595
Driver Name (Print): BARRY ALLEN
Vehicle License No./State: RC8696 / Michigan
Vehicle Certification:

I hereby certify that the above named material was picked up at the generator site listed above.

B. Allen — Driver Signature
050791 — Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

B. Allen — Driver Signature
050791 — Delivery Date

DESTINATION

Site Name: C AND C LANDFILL
Phone No. 616-7819742
Address: 14450 P. DRIVE NORTH, MARSHALL MI 49068

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Jay W. — Name of Authorized Agent
Jay W. — Signature
050791 — Receipt Date

PASS CODE: B 21877

0/86 K00004246 BFI260-7

BFI Waste Systems™
BROWNING-FERRIS INDUSTRIES

No. 729649

NON-HAZARDOUS SPECIAL WASTE MANIFEST

GENERATOR

Generator Name: Consumers Power Company
Address: 212 West Michigan Avenue
Jackson, MI 49201
Phone No. 517-7881073

Generating Location: Kalamazoo Service Center
Address: 2500 East Cork Street
Kalamazoo, MI 49001
Phone No. 517-7881073

BFI Waste Code: MI 576 920415 68798

Description of Waste	Quantity	Units	Containers No.	Containers Type
Soil contaminated with vehicle drain oil	00018	Y	01	T

Type: D - Drum, C - Carton, B - Bag, T - Truck, P - Pounds, Y - Yards, O - Other

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name: TONY AURINO
Signature: Tony Aurino
Shipment Date: 050791

TRANSPORTER

Truck No. 76-39
Phone No. 616-375-9595
Transporter Name: Terra Environmental Corporation
Driver Name (Print): Rod Brown
Address: 5100 West Michigan Avenue
Kalamazoo, MI 49007
Vehicle License No./State: RF5796 / Michigan
Vehicle Certification

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature: Rod Brown
Shipment Date: 050791

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature: Rod Brown
Delivery Date: 050791

DESTINATION

Site Name: C AND C LANDFILL
Phone No. 616-7819742
Address: 14450 P DRIVE NORTH MARSHALL

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent: Jay W.
Signature: Jay W.
Receipt Date: 050791

PASS CODE: B21880

0/86

K00004247

BFI260-72

BFI Waste Systems™
BROWNING-FERRIS INDUSTRIES

No. 729650

NON-HAZARDOUS SPECIAL WASTE MANIFEST

GENERATOR

Generator Name: Consumers Power Company
Address: 212 West Michigan Avenue
Jackson, MI 49201
Phone No. 517-7881073

Generating Location: Kalamazoo Service Center
Address: 2500 East Cork Street
Kalamazoo, MI 49001
Phone No. 517-7881073

BFI Waste Code: MI 576 920415 68798

Description of Waste	Quantity	Units	Containers No.	Containers Type
Soil contaminated with vehicle drain oil	00020	Y	01	T

Type: D - Drum, C - Carton, B - Bag, T - Truck, P - Pounds, Y - Yards, O - Other

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Aurino — Generator Authorized Agent Name
Tony Aurino — Signature
050791 — Shipment Date

TRANSPORTER

Truck No. 67-27
Phone No. 616-375-9595
Transporter Name: Terra Environmental Corporation
Driver Name (Print): Richard Wright
Address: 5100 West Michigan Avenue
Kalamazoo, MI 49007
Vehicle License No./State: RF5793 /Michigan
Vehicle Certification:

I hereby certify that the above named material was picked up at the generator site listed above.

Richard D Wright — Driver Signature
050791 — Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

Richard D Wright — Driver Signature
050891 — Delivery Date

DESTINATION

Site Name: C+C Landfill
Phone No. 616-7819742
Address: 14450 P Drive North Marshall Mich 49068

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Jay W. — Name of Authorized Agent
Jay W. — Signature
050891 — Receipt Date

PASS CODE B 71883

10/86

K00004248

BFI260 7

TRANSPORTER RETAIN

BFI Waste Systems™
BROWNING-FERRIS INDUSTRIES

No. 729651

NON-HAZARDOUS SPECIAL WASTE MANIFEST

GENERATOR

Generator Name: Consumers Power Company
Address: 212 West Michigan Avenue
Jackson, MI 49201
Phone No. 517-7881073

Generating Location: Kalamazoo Service Center
Address: 2500 East Cork Street
Kalamazoo, MI 49001
Phone No. 517-7881073

BFI Waste Code: MI 576 920415 68798

Description of Waste	Quantity	Units	Containers No.	Containers Type
Soil contaminated with vehicle drain oil	00017	Y	01	T

Type: D - Drum; C - Carton; B - Bag; T - Truck; P - Pounds; Y - Yards; O - Other

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name: Tony Aurino
Signature: Tony Aurino
Shipment Date: 050791

TRANSPORTER

Truck No. 6417-92
Phone No. 616-375-9595
Transporter Name: Terra Environmental Corporation
Driver Name (Print): Barry Allen
Address: 5100 West Michigan Avenue
Kalamazoo, MI 49007
Vehicle License No./State: RC 8696 / Michigan
Vehicle Certification:

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature: Barry Allen
Shipment Date: 050791

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature: Barry Allen
Delivery Date: 050891

DESTINATION

Site Name: C + C Landfill
Phone No. 616-7819742
Address: 14450 P Drive North Marshall Mich. 49068

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent: Jay W.
Signature: Jay W.
Receipt Date: 050891

PASS CODE: B21884

0/86 K00004249 BFI260 7

BFI Waste Systems™
BROWNING-FERRIS INDUSTRIES

No. 729653

NON-HAZARDOUS SPECIAL WASTE MANIFEST

GENERATOR

Generator Name: Consumers Power Company
Address: 212 West Michigan Avenue
Jackson, MI 49201
Phone No.: 517-7881073

Generating Location: Kalamazoo Service Center
Address: 2500 East Cork Street
Kalamazoo, MI 49001
Phone No.: 517-7881073

BFI Waste Code: MI 576 920415 68798

Description of Waste	Quantity	Units	Containers No.	Containers Type
Soil contaminated with vehicle drain oil	00018	Y	01	T

Type: D - Drum, C - Carton, B - Bag, T - Truck, P - Pounds, Y - Yards, O - Other

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name: Tony Aurino
Signature: Tony Aurino
Shipment Date: 050791

TRANSPORTER

Truck No.: 76-39
Phone No.: 616-375-9595
Transporter Name: Terra Environmental Corporation
Driver Name (Print): Rod Brown
Address: 5100 West Michigan Avenue
Kalamazoo, MI 49007
Vehicle License No./State: RF 5796 /Michigan
Vehicle Certification:

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature: Rod Brown
Shipment Date: 050791

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature: Rod Brown
Delivery Date: 050891

DESTINATION

Site Name: C+C Landfill
Phone No.: 616-7819742
Address: 14450 P Drive North Marshall Mich 49068

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent: Jay W.
Signature: Jay W.
Receipt Date: 050891

PASS CODE: B 21885

K00004250

0/86 BFI260-72

BFI Waste Systems™
BROWNING-FERRIS INDUSTRIES

No. 729654

NON-HAZARDOUS SPECIAL WASTE MANIFEST

GENERATOR

Generator Name: Consumers Power Company
Address: 212 West Michigan Avenue
Jackson, MI 49201
Phone No. 517-7881073

Generating Location: Kalamazoo Service center
Address: 2500 East Cork Street
Kalamazoo, MI 49001
Phone No. 517-7881073

BFI Waste Code: MI 576 920415 68798

Description of Waste	Quantity	Units	Containers No.	Containers Type
Soil contaminated with vehicle drain oil	00020	Y	01	T

Type: D - Drum, C - Carton, B - Bag, T- Truck, P - Pounds, Y - Yards, O - Other

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Aurino / [redacted] Joe Edwards — Generator Authorized Agent Name
Joe Edwards (HIS) — Signature
050891 — Shipment Date

TRANSPORTER

Truck No. 67-27
Phone No. 616-375-9595
Transporter Name: Terra Environmental Corporation
Driver Name (Print): Richard Wright
Address: 5100 West Michigan Avenue
Kalamazoo, MI 49007
Vehicle License No./State: RF 5793 /Michigan
Vehicle Certification

I hereby certify that the above named material was picked up at the generator site listed above.
Richard Wright — Driver Signature
050891 — Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.
Richard Wright — Driver Signature
050891 — Delivery Date

DESTINATION

Site Name: C + C Landfill
Phone No. 616-7819742
Address: 14450 P Drive North Marshall MI 49068

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Jay W. — Name of Authorized Agent
Jay W. — Signature
050891 — Receipt Date

PASS CODE: B21912

0/86

K00004251

BFI260-72

Waste Systems™
BROWNING-FERRIS INDUSTRIES

No. 729655

NON-HAZARDOUS SPECIAL WASTE MANIFEST

GENERATOR

Generator Name: Consumers Power Company
Address: 212 West Michigan Avenue
Jackson, MI 49201
Phone No. 517-7881073

Generating Location: Kalamazoo Service Center
Address: 2500 East Cork Street
Kalamazoo, MI 49001
Phone No. 517-7881073

BFI Waste Code: MI 576 920415 68798

Description of Waste	Quantity	Units	Containers No.	Containers Type
Soil contaminated with vehicle drain oil	00017	Y	01	T

Type: D - Drum, C - Carton, B - Bag, T - Truck, P - Pounds, Y - Yards, O - Other

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name: TONY AURINO
Signature: Tony Aurino
Shipment Date: 050891

TRANSPORTER

Truck No. ~~46~~ ~~[illegible]~~ 76-39
Phone No. 616-375-9595
Transporter Name: Terra Environmental Corporation
Driver Name (Print): MIKE DESMIT
Address: 5100 West Michigan Aven
Kalamazoo, MI 49007
Vehicle License No./State: RF5796 /Michigan
Vehicle Certification:

I hereby certify that the above named material was picked up at the generator site listed above.
Driver Signature: [signature]
Shipment Date: 050891

I hereby certify that the above named material was delivered without incident to the destination listed below.
Driver Signature: [signature]
Delivery Date: 050891

DESTINATION

Site Name: Carol C. Landfill
Phone No. 616-7819742
Address: 14450 P Drive North Marshall Mich 49068

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent: Jay W.
Signature: Jay W.
Receipt Date: 050891

PASS CODE: B21915

10/86

K00004252

BFI260-72

TRANSPORTER RETAIN

BFI Waste Systems™
BROWNING-FERRIS INDUSTRIES

No. 729656

NON-HAZARDOUS SPECIAL WASTE MANIFEST

GENERATOR

Generator Name: Consumers Power Company
Address: 212 West Michigan Avenue
Jackson, MI 49201
Phone No. 517-7881073

Generating Location: Kalamazoo Service Center
Address: 2500 East Cork Street
Kalamazoo, MI 49001
Phone No. 517-7881073

BFI Waste Code: MI 576 920415 68798

Description of Waste	Quantity	Units	Containers No.	Containers Type
Soil contaminated with vehicle drain oil	0001	Y	01	T

Type: D - Drum, C - Carton, B - Bag, T- Truck, P - Pounds, Y - Yards, O - Other

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Aurino — Generator Authorized Agent Name
Tony Aurino — Signature
Shipment Date: 050891

TRANSPORTER

Truck No. 6416 376417
Phone No. 616-375-9595
Transporter Name: Terra Environmental Corporation
Driver Name (Print): Barry Allen
Address: 5100 West Michigan Avenue
Kalamazoo, MI 49007
Vehicle License No./State: RC8696 /Michigan
Vehicle Certification

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature — Shipment Date: 050891

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature — Delivery Date: 050891

DESTINATION

Site Name: Carol C Landfill
Phone No. 616-7819742
Address: 14450 P Drive North Marshall Mich 49068

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Jay W. — Name of Authorized Agent
Jay W. — Signature
Receipt Date: 050891

PASS CODE: B21925

0/86

K00004253

BFI260-7

TRANSPORTER RETAIN

BFI Waste Systems™
BROWNING-FERRIS INDUSTRIES

No. 729657

NON-HAZARDOUS SPECIAL WASTE MANIFEST

GENERATOR

Generator Name: Consumers Power Company
Address: 212 West Michigan Avenue
Jackson, MI 49201
Phone No. 517-7881073

Generating Location: Kalamazoo Service Center
Address: 2500 ~~East~~ Cork Street
Kalamazoo, MI 49001
Phone No. 517-7881073

BFI Waste Code: MI 576 9204155 68798

Description of Waste	Quantity	Units	Containers No.	Containers Type
Soil contaminated with vehicle drain oil	00020	Y	01	T

Type: D - Drum; C - Carton; B - Bag; T - Truck; P - Pounds; Y - Yards; O - Other

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name: Tony Aurino
Signature: Tony Aurino
Shipment Date: 050891

TRANSPORTER

Truck No. 76-39
Phone No. 616-375-9595
Transporter Name: Terra Environmental Corporation
Driver Name (Print): Mike DeSmit
Address: 5100 West Michigan Avenue
Kalamazoo, MI 49007
Vehicle License No./State: RF 5796 Michigan
Vehicle Certification:

I hereby certify that the above named material was picked up at the generator site listed above.
Driver Signature: [signature] Shipment Date: 050891

I hereby certify that the above named material was delivered without incident to the destination listed below.
Driver Signature: [signature] Delivery Date: 050891

DESTINATION

Site Name: C+C Landfill
Phone No. 616-7819742
Address: 14450 P Drive North Marshall Mich 49068

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent: Jay W.
Signature: Jay W.
Receipt Date: 050891

PASS CODE: B 21943

0/86 K00004254 BFI260-720

TRANSPORTER RETAIN

APPENDIX B

K00004255

To	RGNeumann, H-810	CONSUMERS POWER COMPANY
From	HWVoigt, T-260 HWV	
Date	May 20, 1991	Internal Correspondence
Subject	KALAMAZOO SERVICE CENTER UST Excavation Closure Samples Analytical Results Waste Oil UST #1	
CC	RJWhiting, H-810L JJD'Addona, P-12-123	File Index 519117=561-792

The Chemistry Department of Energy Supply Technical Services (ESTS) received the following samples from the Kalamazoo Service Center UST excavation for Waste Oil UST #1.

May 08, 1991 16 each excavation soil samples

Samples were received by ESTS for determination of BTEX, TPH, PAH, PCB, and Total Lead, Cadmium, and Chromium. Analytical results are attached for your review.

K00004256

METHOD

Sample Handling - Soil and water sample collection and handling were conducted in accordance with SW-846 recommendations. Samples were iced immediately after sampling and labeling. All samples were returned to the Chemistry Department of ESTS for analysis.

Aromatic Volatile Organics (BTEX) - Method 8021, Volatile Organic Compounds in Water by Purge & Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series. SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition (Proposed Update Package, 1989)

Total Petroleum Hydrocarbons (TPH) - Soil Samples - Method 3550, Sonication Extraction (with pre-treatment of sample with anhydrous magnesium sulfate and solvent extraction with F-113). SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986. EPA Method 418.1, Petroleum Hydrocarbons, Total Recoverable (Infrared Spectrophotometric Method). Methods for Chemical Analysis of Water and Waste, USEPA EPA-600/4-79-020, March 1979

Polynuclear Aromatic Hydrocarbon (PAH) - Method 8100, Polynuclear Aromatic Hydrocarbons, SW-846 - Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA.

PCB - Method 8080, Organchlorine Pesticides and PCB. SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986.

Soil Sample Total Metals - Method 3050, Acid Digestion Of Sediments, Sludges, and Soil. SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986.

Lead (Pb), Cadmium (Cr), and Chromium (Cr) - Method 7421, Lead (Atomic Absorption, Furnace Technique). Method 7131 Cadmium, (Atomic Absorption, Furnace Technique). Method 7191 Chromium, (Atomic Absorption, Furnace Technique). SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986.

K00004257

TABLE 1. ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #1
Project Number	91-0792

Sample ID	WO-101N	WO-102N	WO-103S	WO-104S	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	-	-	-	-	
Sample Date	05-07-91	05-07-91	05-07-91	05-07-91	
Received Date	05-08-91	05-08-91	05-08-91	05-08-91	
Analysis Date	05-13-91	05-13-91	05-13-91	05-13-91	
Report Date	05-20-91	05-20-91	05-20-91	05-20-91	
PARAMETER					
BTEX, ug/kg					MDL
Benzene	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	10
Total BTEX					
PAH, ug/kg					MDL
Naphthalene	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	750
Dibenzo(a,h)anthracene	nd	nd	nd	nd	750
Benzo(ghi)perylene	nd	nd	nd	nd	750
TPH, mg/kg					MDL
TPH	28.	29.	23.	34.	10
PCB, mg/kg					MDL
PCB	nd	nd	nd	nd	1
Total Metals, ug/kg					MDL
Lead	4,650.	2,040.	3,800.	6,200.	125
Cadmium	46.	10.	39.	53.	5
Chromium	9,660.	5,050.	11,700.	15,480.	50

Notes: nd = parameter not detected at MDL (Method Detection Limit)
MDL = ug/kg (parts-per-billion)
MDL = mg/kg (parts-per-million)

K00004258

TABLE 12 ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #1
Project Number	91-0792

Sample ID	WO-105S	WO-106S	WO-107E	WO-108E	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	-	-	-	-	
Sample Date	05-07-91	05-07-91	05-07-91	05-07-91	
Received Date	05-08-91	05-08-91	05-08-91	05-08-91	
Analysis Date	05-13-91	05-13-91	05-13-91	05-13-91	
Report Date	05-20-91	05-20-91	05-20-91	05-20-91	
PARAMETER					
BTEX, ug/kg					MDL
Benzene	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	10
Total BTEX					
PAH, ug/kg					MDL
Naphthalene	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	750
Dibenzo(a,h)anthracene	nd	nd	nd	nd	750
Benzo(ghi)perylene	nd	nd	nd	nd	750
TPH, mg/kg					MDL
TPH	28.	28.	27.	24.	10
PCB, mg/kg					MDL
PCB	nd	nd	nd	nd	1
Total Metals, ug/kg					MDL
Lead	3,440.	1,900.	1,770.	4,190.	125
Cadmium	20.	27.	33.	160.	5
Chromium	7,950.	8,140.	6,140.	6,620.	50

Notes: nd = parameter not detected at MDL (Method Detection Limit)
MDL = ug/kg (parts-per-billion)
MDL = mg/kg (parts-per-million)

K00004259

TABLE 3. ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #1
Project Number	91-0792

Sample ID	WO-109E	WO-110E	WO-111W	WO-112W	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	-	-	-	-	
Sample Date	05-07-91	05-07-91	05-07-91	05-07-91	
Received Date	05-08-91	05-08-91	05-08-91	05-08-91	
Analysis Date	05-13-91	05-13-91	05-13-91	05-13-91	
Report Date	05-20-91	05-20-91	05-20-91	05-20-91	
PARAMETER					
BTEX, ug/kg					MDL
Benzene	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	10
Total BTEX					
PAH, ug/kg					MDL
Naphthalene	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	750
Dibenzo(a,h)anthracene	nd	nd	nd	nd	750
Benzo(ghi)perylene	nd	nd	nd	nd	750
TPH, mg/kg					MDL
TPH	24.	23.	27.	24.	10
PCB, mg/kg					MDL
PCB	nd	nd	nd	nd	1
Total Metals, ug/kg					MDL
Lead	3,150.	3,140.	3,060.	2,130.	125
Cadmium	23.	53.	45.	19.	5
Chromium	7,190.	9,730.	8,810.	7,180.	50

Notes: nd = parameter not detected at MDL (Method Detection Limit)
MDL = ug/kg (parts-per-billion)
MDL = mg/kg (parts-per-million)

K00004260

TABLE 4. ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #1
Project Number	91-0792

Sample ID	WO-113W	WO-114W	WO-115FW	WO-116FE	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	-	-	-	-	
Sample Date	05-07-91	05-07-91	05-07-91	05-07-91	
Received Date	05-08-91	05-08-91	05-08-91	05-08-91	
Analysis Date	05-13-91	05-13-91	05-13-91	05-13-91	
Report Date	05-20-91	05-20-91	05-20-91	05-20-91	
PARAMETER					
BTEX, ug/kg					MDL
Benzene	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	10
Total BTEX					
PAH, ug/kg					MDL
Naphthalene	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	750
Dibenzo(a,h)anthracene	nd	nd	nd	nd	750
Benzo(ghi)perylene	nd	nd	nd	nd	750
TPH, mg/kg					MDL
TPH	23.	23.	29.	29.	10
PCB, mg/kg					MDL
PCB	nd	nd	nd	nd	1
Total Metals, ug/kg					MDL
Lead	2,890.	2,610.	3,320.	2,350	125
Cadmium	44.	84.	24.	19.	5
Chromium	8,430.	6,150.	5,690.	6,950.	50

Notes: nd = parameter not detected at MDL (Method Detection Limit)
MDL = ug/kg (parts-per-billion)
MDL = mg/kg (parts-per-million)

K00004261

TABLE 1. ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #1
Project Number	91-0792

Sample ID	WO-101N	WO-102N	WO-103S	WO-104S	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	-	-	-	-	
Sample Date	05-07-91	05-07-91	05-07-91	05-07-91	
Received Date	05-08-91	05-08-91	05-08-91	05-08-91	
Analysis Date	05-13-91	05-13-91	05-13-91	05-13-91	
Report Date	05-24-91	05-24-91	05-24-91	05-24-91	
PARAMETER					
601 Scan, ug/kg					MDL
Bromodichloromethane	nd	nd	nd	nd	20
Bromoform	nd	nd	nd	nd	20
Bromomethane	nd	nd	nd	nd	40
Carbon Tetrachloride	nd	nd	nd	nd	10
Chlorobenzene	nd	nd	nd	nd	10
Chloroethane	nd	nd	nd	nd	20
Chloroform	nd	nd	nd	nd	10
Chloromethane	nd	nd	nd	nd	40
Dibromochloromethane	nd	nd	nd	nd	20
1,1-Dichloroethane	nd	nd	nd	nd	10
1,2-Dichloroethane	nd	nd	nd	nd	10
1,1-Dichloroethene	nd	nd	nd	nd	10
cis-1,2-Dichloroethene	nd	nd	nd	nd	10
trans-1,2-Dichloroethene	nd	nd	nd	nd	10
1,2-Dichloropropane	nd	nd	nd	nd	10
cis-1,3-Dichloropropene	nd	nd	nd	nd	10
trans-1,3-Dichloropropene	nd	nd	nd	nd	10
Methylene Chloride	nd	nd	nd	nd	50
1,1,2,2-Tetrachloroethane	nd	nd	nd	nd	10
Tetrachloroethene	nd	nd	nd	nd	10
1,1,1-Trichloroethane	nd	nd	nd	nd	10
1,1,2-Trichloroethane	nd	nd	nd	nd	10
Trichloroethene	nd	nd	nd	nd	10
Trichlorofluoromethane	nd	nd	nd	nd	20
Vinyl Chloride	nd	nd	nd	nd	100

Note: MDL = Method Detection Limit, ug/L (parts-per-billion)
nd = Parameter Not Detected At MDL

K00004262

TABLE 2. ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #1
Project Number	91-0792

Sample ID	WO-105S	WO-106S	WO-107E	WO-108E	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	-	-	-	-	
Sample Date	05-07-91	05-07-91	05-07-91	05-07-91	
Received Date	05-08-91	05-08-91	05-08-91	05-08-91	
Analysis Date	05-13-91	05-13-91	05-13-91	05-13-91	
Report Date	05-24-91	05-24-91	05-24-91	05-24-91	
PARAMETER					
601 Scan, ug/kg					MDL
Bromodichloromethane	nd	nd	nd	nd	20
Bromoform	nd	nd	nd	nd	20
Bromomethane	nd	nd	nd	nd	40
Carbon Tetrachloride	nd	nd	nd	nd	10
Chlorobenzene	nd	nd	nd	nd	10
Chloroethane	nd	nd	nd	nd	20
Chloroform	nd	nd	nd	nd	10
Chloromethane	nd	nd	nd	nd	40
Dibromochloromethane	nd	nd	nd	nd	20
1,1-Dichloroethane	nd	nd	nd	nd	10
1,2-Dichloroethane	nd	nd	nd	nd	10
1,1-Dichloroethene	nd	nd	nd	nd	10
cis-1,2-Dichloroethene	nd	nd	nd	nd	10
trans-1,2-Dichloroethene	nd	nd	nd	nd	10
1,2-Dichloropropane	nd	nd	nd	nd	10
cis-1,3-Dichloropropene	nd	nd	nd	nd	10
trans-1,3-Dichloropropene	nd	nd	nd	nd	10
Methylene Chloride	nd	nd	nd	nd	50
1,1,2,2-Tetrachloroethane	nd	nd	nd	nd	10
Tetrachloroethene	nd	nd	nd	nd	10
1,1,1-Trichloroethane	nd	nd	nd	nd	10
1,1,2-Trichloroethane	nd	nd	nd	nd	10
Trichloroethene	nd	nd	nd	nd	10
Trichlorofluoromethane	nd	nd	nd	nd	20
Vinyl Chloride	nd	nd	nd	nd	100

Note: MDL = Method Detection Limit, ug/L (parts-per-billion)
nd = Parameter Not Detected At MDL

K00004263

TABLE 3. ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #1
Project Number	91-0792

Sample ID	WO-109E	WO-110E	WO-111W	WO-112W	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	-	-	-	-	
Sample Date	05-07-91	05-07-91	05-07-91	05-07-91	
Received Date	05-08-91	05-08-91	05-08-91	05-08-91	
Analysis Date	05-13-91	05-13-91	05-13-91	05-13-91	
Report Date	05-24-91	05-24-91	05-24-91	05-24-91	
PARAMETER					
601 Scan, ug/kg					MDL
Bromodichloromethane	nd	nd	nd	nd	20
Bromoform	nd	nd	nd	nd	20
Bromomethane	nd	nd	nd	nd	40
Carbon Tetrachloride	nd	nd	nd	nd	10
Chlorobenzene	nd	nd	nd	nd	10
Chloroethane	nd	nd	nd	nd	20
Chloroform	nd	nd	nd	nd	10
Chloromethane	nd	nd	nd	nd	40
Dibromochloromethane	nd	nd	nd	nd	20
1,1-Dichloroethane	nd	nd	nd	nd	10
1,2-Dichloroethane	nd	nd	nd	nd	10
1,1-Dichloroethene	nd	nd	nd	nd	10
cis-1,2-Dichloroethene	nd	nd	nd	nd	10
trans-1,2-Dichloroethene	nd	nd	nd	nd	10
1,2-Dichloropropane	nd	nd	nd	nd	10
cis-1,3-Dichloropropene	nd	nd	nd	nd	10
trans-1,3-Dichloropropene	nd	nd	nd	nd	10
Methylene Chloride	nd	nd	nd	nd	50
1,1,2,2-Tetrachloroethane	nd	nd	nd	nd	10
Tetrachloroethene	nd	nd	nd	nd	10
1,1,1-Trichloroethane	nd	nd	nd	nd	10
1,1,2-Trichloroethane	nd	nd	nd	nd	10
Trichloroethene	nd	nd	nd	nd	10
Trichlorofluoromethane	nd	nd	nd	nd	20
Vinyl Chloride	nd	nd	nd	nd	100

Note: MDL = Method Detection Limit, ug/L (parts-per-billion)
nd = Parameter Not Detected At MDL

K00004264

TABLE 4. ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #1
Project Number	91-0792

Sample ID	WO-113W	WO-114W	WO-115FW	WO-116FE
Sample Type	soil	soil	soil	soil
Sample Depth (ft)	-	-	-	-
Sample Date	05-07-91	05-07-91	05-07-91	05-07-91
Received Date	05-08-91	05-08-91	05-08-91	05-08-91
Analysis Date	05-13-91	05-13-91	05-13-91	05-13-91
Report Date	05-24-91	05-24-91	05-24-91	05-24-91

PARAMETER					
601 Scan, ug/kg					MDL
Bromodichloromethane	nd	nd	nd	nd	20
Bromoform	nd	nd	nd	nd	20
Bromomethane	nd	nd	nd	nd	40
Carbon Tetrachloride	nd	nd	nd	nd	10
Chlorobenzene	nd	nd	nd	nd	10
Chloroethane	nd	nd	nd	nd	20
Chloroform	nd	nd	nd	nd	10
Chloromethane	nd	nd	nd	nd	40
Dibromochloromethane	nd	nd	nd	nd	20
1,1-Dichloroethane	nd	nd	nd	nd	10
1,2-Dichloroethane	nd	nd	nd	nd	10
1,1-Dichloroethene	nd	nd	nd	nd	10
cis-1,2-Dichloroethene	nd	nd	nd	nd	10
trans-1,2-Dichloroethene	nd	nd	nd	nd	10
1,2-Dichloropropane	nd	nd	nd	nd	10
cis-1,3-Dichloropropene	nd	nd	nd	nd	10
trans-1,3-Dichloropropene	nd	nd	nd	nd	10
Methylene Chloride	nd	nd	nd	nd	50
1,1,2,2-Tetrachloroethane	nd	nd	nd	nd	10
Tetrachloroethene	nd	nd	nd	nd	10
1,1,1-Trichloroethane	nd	nd	nd	nd	10
1,1,2-Trichloroethane	nd	nd	nd	nd	10
Trichloroethene	nd	nd	nd	nd	10
Trichlorofluoromethane	nd	nd	nd	nd	20
Vinyl Chloride	nd	nd	nd	nd	100

Note: MDL = Method Detection Limit, ug/L (parts-per-billion)
nd = Parameter Not Detected At MDL

K00004265

ATTACHMENT

91-782

McNAMEE
ENGINEERING EXCELLENCE SINCE 1914

CHAIN OF CUSTODY RECORD

RECEIVED
MAY 08 1991
CHEMICAL DIVISION

PROJ. NO.

PROJECT NAME: KALAMAZOO W.O. UST #1

SAMPLERS: (Signature) Joseph D. Edwards

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TPH, PCB	BTEX	PNA, Cd, Cr, Pb	TPH, PCB				REMARKS
W.O. UST #1	91													
	5-7	1358		X	W.0.101 N.	2	X	X	X					
		1403		X	W.0.102 N.	2	X	X	X					BTEX Method 8020
		1409		X	W.0.103 S.	2	X	X	X					Pb Method 7421
		1417		X	W.0.104 S.	2	X	X	X					PNA Met. 8250 or 8270
		1423		X	W.0.105 S.	2	X	X	X					Cd, ~~Cr~~ Met. 7131
		1430		X	W.0.106 S.	2	X	X	X					Cr, Met. 7191
		1435		X	W.0.107 E.	2	X	X	X					PCB 8080
		1440		X	W.0.108 E.	2	X	X	X					
		1447		X	W.0.109 E.	2	X	X	X					TPH - 418.1 (?)
		1454		X	W.0.110 E.	2	X	X	X					
		1500		X	W.0.111 W.	2	X	X	X					
		1505		X	W.0.112 W.	2	X	X	X					Provide QA/QC
		1509		X	W.0.113 W.	2	X	X	X					
		1515		X	W.0.114 W.	2	X	X	X					
		1520		X	W.0.115 F.W	2	X	X	X					
		1535		X	W.0.116 F.E	2	X	X	X					
				X										

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Joseph D. Edwards	5-7-91 1600	CFCo Mail		05/8/91 0930	[illegible]
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

COMMENTS:

K00004267

EXHIBIT 1 A

NOVEMBER 13, 1991

MDNR (MDEQ) CLOSURE ACKNOWLEDGEMENT

K00004268

Rec'D 11/18/91
MH

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
MARLENE J. FLUHARTY
GORDON E. GUYER
O. STEWART MYERS
RAYMOND POUPORE

JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

Roland Harmes, Director
District 12 Headquarters
P.O. Box 355, Plainwell, Michigan 49080

November 13, 1991

Mr. John D'Addona
Consumers Power Company
Environmental Department
212 West Michigan Avenue
Jackson, MI 49201

SUBJECT: Site Closure Request, 500 Gallon Used Oil (Tank #1) UST, Kalamazoo Service Center, 2500 East Cork Street, Kalamazoo, Kalamazoo County

Dear Mr. D'Addona:

The Michigan Department of Natural Resources (MDNR) is in receipt of your submittal requesting concurrence that no further remedial actions are necessary at the above facility to abate the release of regulated substances from the underground storage tank system resulting from the release reported on December 21, 1990. Based upon staff review of the summary of work performed, we concur that the interim response activities undertaken at the facility have reduced the contamination to concentrations below acceptable cleanup levels.

According to the work summary, the interim response activities consisted of removing the underground storage tank system, as well as, the contaminated soils (186 cubic yards) associated with the underground storage tank system. Soil samples were collected to verify mitigation of the contamination to acceptable concentrations.

The MDNR is unable to express an opinion as to any other contaminants beyond those found and remediated as part of the interim response activities associated with this release. We make no warranty as to the fitness of the site for any general or specific use, and prospective purchasers or users are advised to use due diligence in acquiring or using the site. The site will not be considered for inclusion on the Act 307 List as a site of environmental contamination with regard to this incident.

If you have questions regarding this specific project please feel free to contact Mark DuCharme of my staff, at the number listed below.

Sincerely,

Galen L. Kilmer

Galen L. Kilmer, District Supervisor
ENVIRONMENTAL RESPONSE DIVISION
Plainwell District
616-685-9886

K00004269

EXHIBIT 2

P-25-P2

KALAMAZOO SERVICE CENTER
4000 GALLON DIESEL UST SYSTEM
SITE INVESTIGATION AND CLOSURE REPORT

K00004270

Consumers Power
POWERING MICHIGAN'S PROGRESS
General Offices: 212 West Michigan Avenue, Jackson, MI 49201 • (517) 788-0550

September 25, 1992 7SM905.9.7

James E Innes
Plainwell District Office
Environmental Response Division
Michigan Department of Natural Resources
621 North 10th Street
Plainwell, MI 49080

KALAMAZOO SERVICE CENTER
2500 EAST CORK STREET
KALAMAZOO, KALAMAZOO COUNTY
4,000 GALLON DIESEL UST SYSTEM
SITE INVESTIGATION AND CLOSURE REPORT

The enclosed Site Investigation and Closure Report, for a confirmed release at the Consumers Power Company Kalamazoo Service Center demonstrates that appropriate corrective actions have been achieved at the 4,000 gallon diesel UST system release. Corrective actions were as described in the January 16, 1992 Work Plan approval and the February 14, 1992 schedule as submitted by Consumers Power Company.

All verification samples subsequently analyzed at the diesel UST system are below acceptable corrective action criteria for diesel UST system releases, therefore, no further corrective actions are necessary and a corrective action plan is not required.

In accordance with Michigan Compiled Laws annotated, Chapter 299, Subsection 299.838(6), we are requesting that the Michigan Department of Natural Resources execute a document stating that corrective actions have been completed at this release location.

If you have any questions, please do not hesitate to call me at (517) 788-0350.

Robert G Neumann PE
UST Compliance Engineer
Environmental and Technical Services Department

K00004271

0099297.RGN

BCC AFGoodman, M1049
AMAurino, Lansing Annex
RCWhiting, P12-121

K00004272

0099297.RGN

McNAMEE
ENGINEERING EXCELLENCE
SINCE 1914

McNAMEE INDUSTRIAL SERVICES, INC.

3131 South State Street / Suite 300 • Ann Arbor, MI 48108 • Telephone (313) 665-3999 • Fax: (313) 665-2570

September 23, 1992

Mr. Robert G. Neumann, P.E.
UST Compliance Engineer
Environmental and Technical Services Department
Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

Re: Site Investigation and Closure Report (System #3) Kalamazoo Service Center

Dear Mr. Neumann:

Enclosed are six copies of the final "Site Investigation and Closure Report, Kalamazoo Service Center System #3, 4,000 gallon Diesel Fuel UST System." The report modifications have been incorporated as requested in your September 11, 1992 letter to Gary Molchan of McNamee Industrial Services. If you have any questions or comment s please do not hesitate to call me a t (313) 665-3999.

Sincerely,
McNamee Industrial Services, Inc.

Scott McWhinnie
Project Hydrogeologist

Encl.

p:/mis/0760820/BN_LET.doc STM

K00004273

SITE INVESTIGATION AND CLOSURE REPORT

KALAMAZOO SERVICE CENTER
SYSTEM #3
4,000-GALLON DIESEL FUEL UST SYSTEM

KALAMAZOO SERVICE CENTER
2500 EAST CORK STREET
KALAMAZOO, MICHIGAN

Prepared for:
Consumers Power Company
212 West Michigan Avenue
Jackson, Michigan 49201

Prepared by:
McNamee Industrial Services, Inc.
3131 South State Street, Suite 300
Ann Arbor, Michigan 48108
September 21, 1992

K00004274

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INTRODUCTION

McNamee Industrial Services, Inc. (MIS) was contracted by Consumers Power Company (CPCo) to provide environmental services and construction oversight during the excavation of impacted soil at the Kalamazoo Service Center. Kalamazoo is located in south-central Michigan's Lower Peninsula approximately 40 miles north of the Indiana border and 50 miles east of Lake Michigan. The Kalamazoo Service Center is located at 2500 East Cork Street in the City of Kalamazoo, Kalamazoo County, Michigan (Figure 1).

This closure report is presented to demonstrate that the actions contained herein are consistent with the actions required in Public Act 478, the Leaking Underground Storage Tank Act, Public Act 307, the Michigan Environmental Response Act and other appropriate guidelines and regulations.

This report describes the corrective actions undertaken during the excavation of the soil adjacent to the west and north end of the equipment port and the further excavation of soil in the vicinity of the previously exhumed 4,000-gallon diesel fuel underground storage tank (UST). The excavated soil was reported to have contained total petroleum hydrocarbons (TPHs) in the Site Investigation Report of January 6, 1992, and therefore required corrective action. This report also discusses groundwater samples that were collected from existing monitoring wells in the vicinity of the excavations.

SITE DESCRIPTION AND HISTORY

The Kalamazoo Service Center is located on the southeast corner of the intersection of Cork Street and Emerald Drive in the south-central portion of Kalamazoo. A Service Center Site Map is presented as Figure 2. The Service Center occupies approximately 20 acres of land; most of the site is covered by a building, asphalt and hard-packed gravel. The surrounding land use is commercial and residential and is served by municipal water and a sanitary sewer system. A single building contains office space, storage areas, and a maintenance garage. The building covers approximately 2.5 acres of the site.

The Service Center location has been used for many years as a work headquarters for personnel who construct and maintain electric and natural gas transmission and distribution facilities serving commercial, industrial and residential customers in the Company's Kalamazoo District.

DESCRIPTION OF CORRECTIVE ACTIONS

Soil samples collected in October 1989 during the 4,000 gallon diesel fuel UST excavation exhibited TPH concentrations ranging from 310 mg/kg to 1960 mg/kg in soil samples 892122-6 and 892122-7 respectively. The Site Investigation Report of July 1990, indicated the presence of TPH in two soil borings adjacent to the equipment port: Soil sample SB-6 contained 3580 mg/kg TPH: Soil sample SB-11 contained 340 mg/kg TPH. To determine if the excavation area had been properly remediated, soil samples collected during this corrective action were analyzed for the following parameters:

- Polynuclear Aromatic Hydrocarbons (PNAs)
- Total Petroleum Hydrocarbons (TPH)
- Benzene, Toluene, Ethylbenzene Xylenes (BTEX)
- Polychlorinated biphenyls (PCBs)
- Lead (Pb)
- Cadmium (Cd)
- Chromium (Cr)

On May 4, through May 11, 1992, representatives from MIS, CPCo, and M. L. Chartier, Inc. (Chartier) excavated approximately 2,000 cubic yards of hydrocarbon-impacted soil from the former UST area and the north and west sides of the equipment ports. Chartier was responsible for the excavation and transportation of the hydrocarbon-impacted soil and the restoration of the site. MIS was responsible for environmental oversight and sample collection. The CPCo representative was the general site manager.

Equipment Port Excavation

On May 4, 1992, an L-shaped area adjacent to the west and north sides of the equipment port was excavated. The western side of the equipment port was excavated to the depth of 6 feet. The excavation was 20 feet wide and 45 feet long. The excavation which extended 60 feet along the north side of the equipment port, was 20 feet wide and 12 feet deep (Figure 3). Excavation of the soil adjacent to the equipment port was completed on May 6, 1992.

Structural support for the equipment port column footings was installed to maintain the integrity of the columns. Installation was accomplished by first excavating a trench adjacent to the north end of the equipment port column footings that was approximately 2 feet deep, 2 feet wide and 40 feet long. This trench was utilized as a guide for the shoring sheets which provided the structural support for the equipment port column footings during excavation. The individual shoring sheets were approximately 3 feet wide and 14 feet long. See photograph A_1 presented in Appendix A.

Approximately 1,000 cubic yards of soil were removed from the equipment port excavation area as documented in waste manifests contained in Appendix B. These soils were comprised of silt and clay from the southeast portion of the excavation area along the west of the equipment port. The soils from the remaining excavated area were comprised of silt, sand (medium to coarse) and gravel with a trace of cobblestone.

North Excavation (former UST area)

The north excavation was located approximately 20 feet north of the equipment port excavation. This excavation was the former location of a 4,000 gallon diesel UST. Excavation commenced on May 7, and was completed on May 11, 1992. The north excavation was approximately 40 feet wide, 40 feet long and 16 to 18 feet deep (Figure 4). The excavated soil was composed of silt and clay from the southeast corner of the south sidewall and silt, sand (medium to coarse) and gravel with a trace of cobblestone from the remainder of the excavation.

An 8-inch fire water main (FWM) was present in the excavation and needed structural support during the excavation of the soil. Excavation for structural support for the 8-inch FWM commenced on May 4, 1992. The FWM was approximately 6 feet below grade and was exposed for approximately 40 feet, east to west. In order to maintain the integrity of the FWM, 6-inch wide-flange steel sections were driven along opposite sides of each joint in the FWM line and bridged with steel sections to support the FWM. These steel sections were approximately 16 feet long and remained in the excavation to provide support of the FWM during back fill and compacting operations. See photograph A_2 located in Appendix A.

During the excavation of the soil, the concrete support section from the former diesel UST was encountered. This concrete section was estimated to be 14 feet wide, 28 feet long, 10 inches thick and approximately 12 feet below surface grade: It was not removed from the excavation. Approximately 1,000 cubic yards of soil were removed from the north excavation.

North Excavation (former UST area) Soil Sampling

After the north excavation was complete, six soil samples were collected from the sidewalls (one every 25 lineal feet). The sidewall samples were collected at lithology changes or varying depths below surface grade. The floor area of the north excavation was approximately 1,600 square feet. Four soil samples were collected from the floor of the excavation (FSS-26 through FSS-29). The soil samples were collected and handled in the same manner previously described for the other excavation. Figure 4 depicts the location and depth of the collected soil samples.

The soil lithology in the excavation consisted of fine to coarse sand, some fine to coarse gravel, little silt and clay, and a trace of cobblestone. Four soil samples (SS-22 through SS-25)were silty clays while the remaining six soil samples were sand. The soil samples collected from the floor of the excavation, (FSS-26 through FSS-29) were composed of fine sand to fine gravel.

The soil samples from both excavations were delivered to Environmental & Technical Services Department (ETS), Trail Street, Jackson, Michigan for analysis.

Groundwater Sample Collection (MW-01, MW-02, and MW-04)

On June 15, 1992 a MIS hydrogeologist collected groundwater samples from MW-01, MW-02 and MW-04. The groundwater samples were analyzed for TPH and PNAs as requested by the MDNR in their January 16, 1992 comments related to the Site Investigation Report of January 6, 1992. Figure 5 depicts the locations of the monitoring wells in the vicinity of the two excavations.

The monitoring wells were purged of approximately three to five well volumes prior to sample collection. A new disposable bailer and length of cord was used for each monitoring well. The purge water was poured into a 5 gallon container, then transferred to a 55 gallon steel drum to be stored on site for later disposal.

The groundwater samples for TPH analysis were placed in clear glass quart containers. The groundwater samples for PNAs were placed in amber glass quart containers. Containers were supplied by ETS Laboratory. After the groundwater samples were collected, the containers were labeled, logged on the chain-of-custody and placed in a cooler containing ice packs. The cooler was delivered to ETS.

ANALYTICAL RESULTS

Equipment Port Soil Analytical Results

The equipment port soil samples were analyzed for the previously mentioned parameters. As requested the TPH was determined by Method ASTM D-2887, gas chromatography-flame ionization detector (GC-FID). The PNAs were determined by Method 8270, gas chromatography- mass spectrometry (GC-MS).

ETS Laboratory's analytical report for the soil samples indicates TPH, BTEX, PNAs and PCBs are below the appropriate Method Detection Limits (MDLs). The analytical data are summarized on Table 1 and included in Appendix C.

North Excavation (former UST area) Soil Sample Analytical Results

The north excavation soil samples were analyzed for the previously mentioned parameters. As requested the TPH was determined by Method ASTM D-2887, GC-FID. The PNAs were determined by Method 8270, GC-MS.

ETS's analytical report for the soil samples from the north excavation indicates TPH, BTEX, PNAs and PCBs are below the appropriate MDLs. The laboratory data are summarized on Table 2 and included in Appendix C.

Background Soil Levels of Pb, Cd and Cr

The inorganic soil constituents Pb, Cd, and Cr were present in the equipment port and north excavation soil samples in a wide range of concentrations (Table 3). The concentrations of these constituents that are present at natural background levels are documented in the MDNR report "Michigan Background Soil Survey" (MBSS), April, 1991. The mean and standard deviations for the inorganic constituents (Pb, Cd, and Cr) reported for the Michigan Lobe soils (sand, silt, and clay) as well as MDNR Act 307 background concentration limit (mean + 3 standard

deviations) as specified in the MDNR guidance document "Verification of Soil Remediation" are:

SAND

Inorganic	Mean	Standard Deviation	Act 307 Background Concentration Limits (mean + 3 Standard Deviations)
Cadmium	0.6 mg/kg	0.5 mg/kg	2.1 mg/kg
Chromium	5.5 mg/kg	5.3 mg/kg	21.4 mg/kg
Lead	16.3 mg/kg	10.4 mg/kg	47.5 mg/kg

CLAY

Inorganic	Mean	Standard Deviation	Act 307 Background Concentration Limits (mean + 3 Standard Deviations)
Cadmium	0.3 mg/kg	0.3 mg/kg	1.2 mg/kg
Chromium	10.5 mg/kg	5.9 mg/kg	28.2 mg/kg
Lead	17.8 mg/kg	7.1 mg/kg	39.1 mg/kg

SILT

Inorganic	Mean	Standard Deviation	Act 307 Background Concentration Limits (mean + 3 Standard Deviations)
Cadmium	1.0 mg/kg	NA	1.0 mg/kg
Chromium	11.6 mg/kg	NA	11.6 mg/kg
Lead	2.5 mg/kg	NA	2.5 mg/kg

The concentrations of Pb, Cr, and Cd in all of the excavation soil samples, except SS03-75, are present in natural background concentrations. The maximum limit for natural background has been determined by using the mean concentration of the inorganic element in a specific soil type plus three standard deviations. Soil sample SS03-75, identified in the field as a silt, has a measured concentration of Pb above natural background for silt (9,100 µg/kg vs. 2,500 µg/kg); however, it was taken from an area of the excavation that also contained silty clay material.

There is a strong likelihood that the sample contained some clay which has a naturally higher concentration of Pb (17.8 mg/kg mean concentration) than silt (2.5 mg/kg mean concentration) in Michigan Lobe soils. Soil sample SS03-75's Pb concentration was below the upper limit of natural background limit for clay.

Groundwater Analysis

The groundwater samples from MW-01, MW-02, and MW-04 were analyzed for PNAs and TPH. The TPH concentration was determined by Method ASTM D-2887 GC-FID and by Method 418.1, Infrared Spectrophotometric Method (IR). The PNAs concentrations were determined by Method 8270, gas chromatography - mass spectrometry (GC-MS).

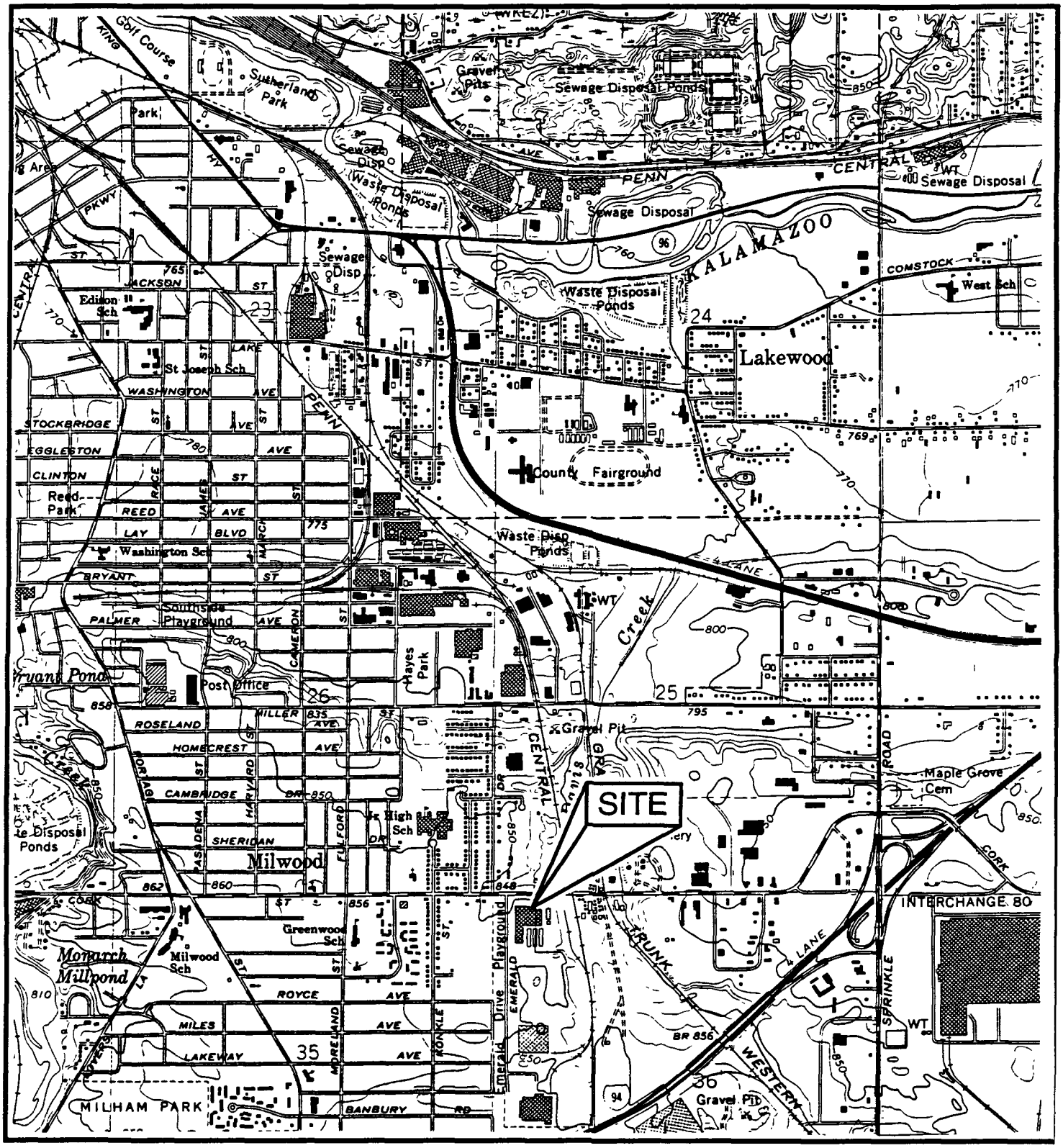
The laboratory report indicates PNA concentrations and TPH were below the MDLs for the groundwater samples from monitoring wells MW-01, MW-02, and MW-04. The analytical data is summarized in Table 4 and included in Appendix C.

CONCLUSIONS AND RECOMMENDATIONS

The analytical results of the soil samples indicate concentrations below the MDLs for BTEX, TPH, PNAs, and PCBs. The detectable concentrations of lead, cadmium, and chromium are within the the range of naturally occurring background based upon the MBSS for the Michigan Lobe.

According to the analytical results of the groundwater samples from MW-01, MW-02, and MW-04, TPH and PNAs concentrations were below the MDLs.

Based on the analytical results we conclude that appropriate corrective action has been completed at System #3 and therefore meets the criteria for a Type A closure under Rule 299.507(b), P.A. 307 (1982) and the amendments to the Act. We also conclude that further sampling of site's monitoring wells is no longer necessary, and recommend that MW-01, MW-02, and MW-04 be properly abandoned.



McNAMEE
INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

N

SCALE: 1" = 2000'

ADAPTED FROM USGS
KALAMAZOO QUADRANGLE

QUADRANGLE LOCATION

FIGURE 1

KALAMAZOO SERVICE CENTER
SITE LOCATION MAP

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN

K00004283

CORK STREET

water meter vault

grass covered

GATE

grass covered NORTH EXCAVATION FORMER UST AREA

40'

40'

75'

GATE

54'

60'

20'

45'

20'

EQUIPMENT PORT EXCAVATION

SERVICE CENTER BLDG

EQUIPMENT PORTS

curb

grass

EXCAVATION AREA SYSTEM #2

Asphalt

PARKING AREA

CARPORT

CARPORT

CARPORT

EQUIPMENT PORTS

N

LEGEND

EXCAVATION AREA

DOWN SLOPE

APPROXIMATE SCALE 1" = 100'

McNAMEE

INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

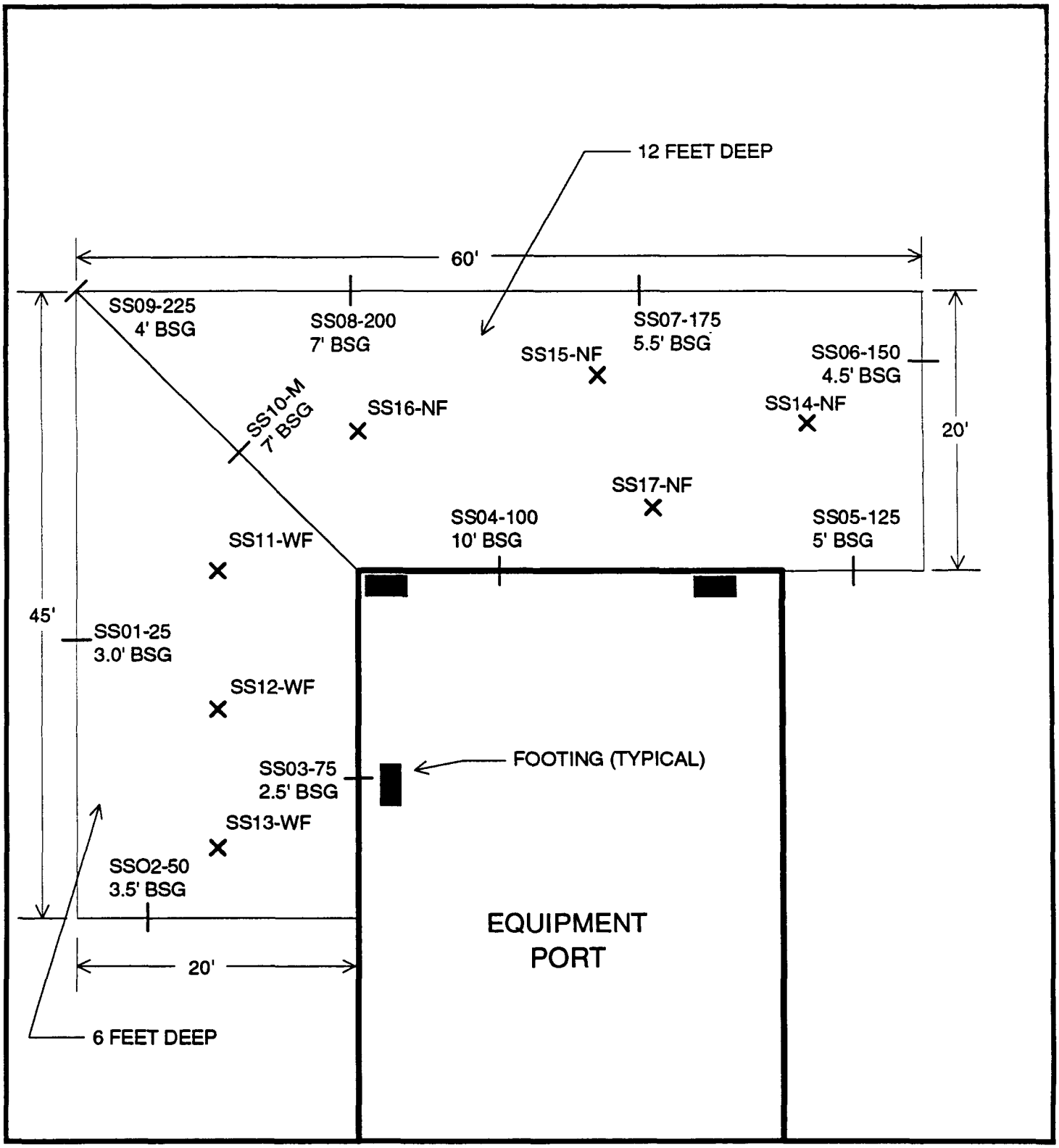
P:\MIS\0760820\KLMZNO2.DRW EBS 9/26/92

FIGURE 2

KALAMAZOO SERVICE CENTER
SITE MAP

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN

K00004284



N

LEGEND

BSG BELOW SURFACE GRADE

—— SIDE WALL SAMPLE LOCATION

× FLOOR SAMPLE LOCATION

SCALE: 1" = 10 '

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INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

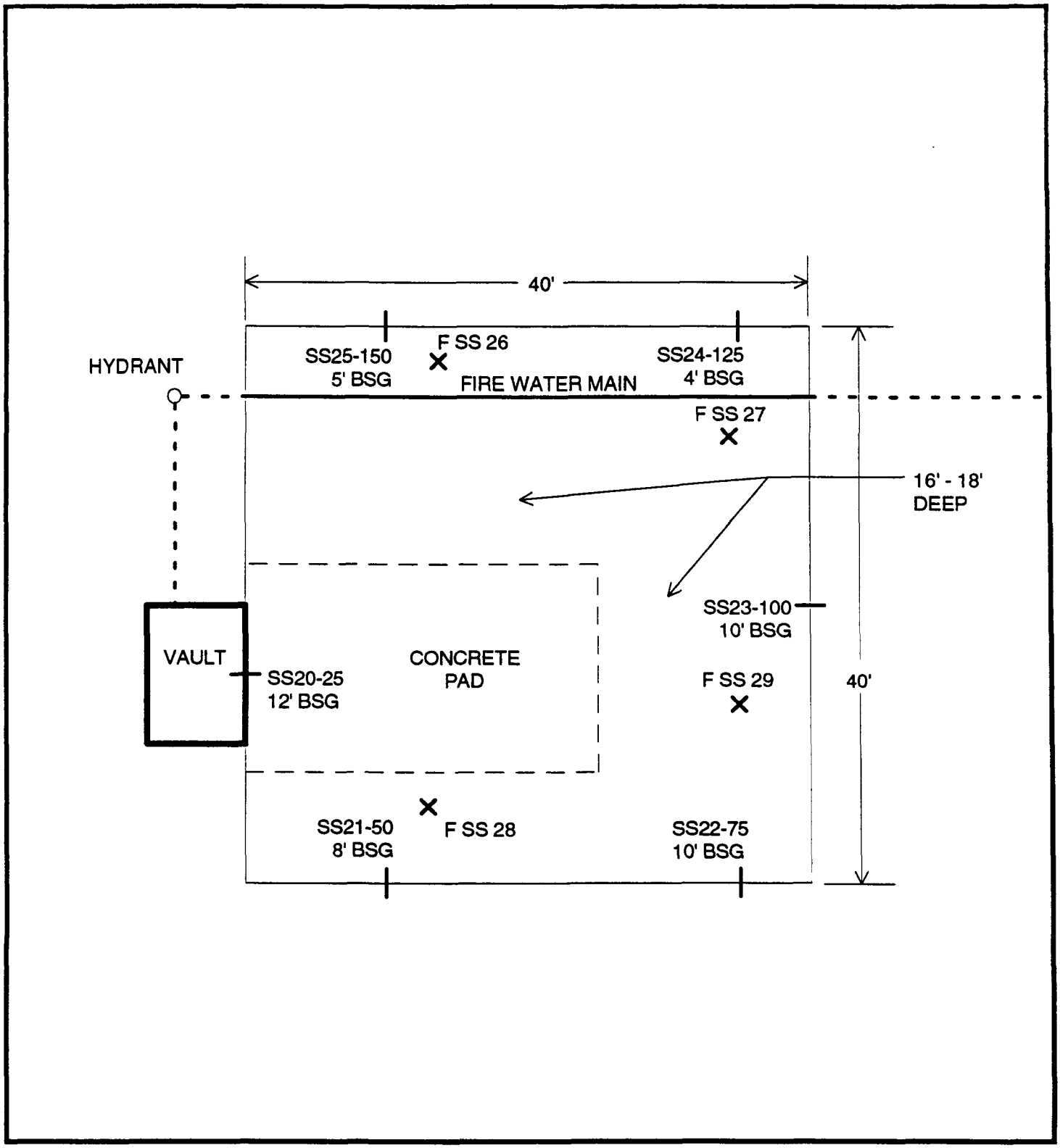
P:\MIS\0760820\KLMZNO3.DRW EBS 8/26/92

FIGURE 3

KALAMAZOO SERVICE CENTER
EQUIPMENT PORT
AREA OF EXCAVATION

CONSUMERS POWER COMPAN'
KALAMAZOO, MICHIGAN

K00004285



N

LEGEND

BSG BELOW SURFACE GRADE

— SIDE WALL SAMPLE LOCATION

× FLOOR SAMPLE LOCATION

SCALE: 1" = 10 '

McNAMEE
INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

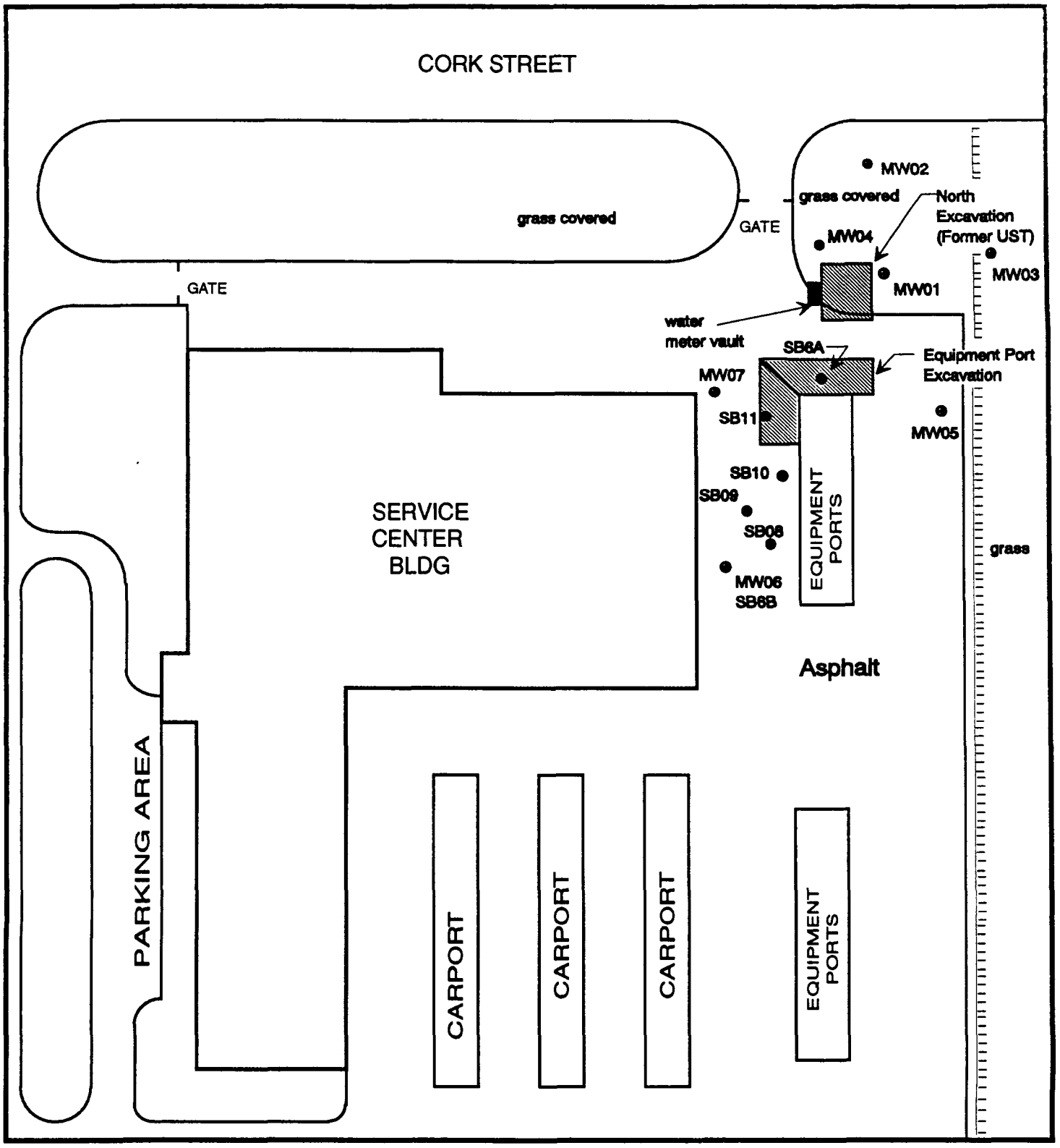
P:\MIS\0760620\KLMZNO4.DRW EBS 8/26/92

FIGURE 4

KALAMAZOO SERVICE CENTER
NORTH EXCAVATION AREA

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN

K00004286



N

LEGEND

APPROXIMATE SCALE 1" = 100'

- ● SOIL BORING
- ⊕ MONITORING WELL
- EXCAVATION AREA
- DOWN SLOPE

McNAMEE
INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

P:\MIS\0760820\KLMZFIG5.DRW EBS 8/26/92

FIGURE 5

KALAMAZOO SERVICE CENTER
SOIL BORING AND MONITORING
WELL LOCATIONS

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN

K00004287

TABLE 1

SOIL ANALYTICAL SUMMARY
(equipment port)
Consumers Power Company
Kalamazoo Service Center
Kalamazoo, Michigan
May 6, 1992

Sample Number	Depth Below Grade (ft)	BTEX ug/kg	TPH mg/kg	PNA ug/kg	PCBs ug/kg	Lead ug/kg	Cadmium ug/kg	Chromium ug/kg
SS-01-25	3	<10	nd	<330	<33	2240	<50	4690
SS-02-50	3	<10	nd	<330	<33	8510	74	16500
SS-03-75	10	<10	nd	<330	<33	9100	320	9200
SS-04-100	10	<10	nd	<330	<33	2600	<50	6200
SS-05-125	5	<10	nd	<330	<33	2500	<50	5500
SS-06-150	5	<10	nd	<330	<33	4300	100	7680
SS-07-175	5	<10	nd	<330	<33	8400	89	18900
SS-08-200	5	<10	nd	<330	<33	6960	50	13500
SS-09-225	5	<10	nd	<330	<33	3300	54	6610
SS-10-M	8	<10	nd	<330	<33	2500	<50	5500
SS-11-WF	6	<10	nd	<330	<33	6600	73	10000
SS-12-WF	6	<10	nd	<330	<33	3250	50	5700
SS-13-WF	6	<10	nd	<330	<33	3700	81	5400
SS-14-NF	12	<10	nd	<330	<33	2000	<50	6600
SS-15-NF	12	<10	nd	<330	<33	2200	<50	5000
SS-16-NF	12	<10	nd	<330	<33	1700	<50	5900
SS-17-NF	12	<10	nd	<330	<33	2600	<50	5700

Analytes	Method	MDL
BTEX = Benzene, Toluene, Ethyl-benzene, and Xylenes	USEPA Method 8021	10 ug/kg
TPH = Total Petroleum Hydrocarbon	ASTM Method D-2887	see note below
PNA = Polynuclear Aromatic Hydrocarbons		
PCBs = Polychlorinated Biphenyls	USEPA Method 8270	330 ug/kg
Lead	USEPA Method 8080	33 ug/kg
Cadmium	USEPA Method 7421	1,000 ug/kg
Chromium	USEPA Method 7131	50 ug/kg
nd = Non-detect	USEPA Method 7191	200 ug/kg
MDL = Method Detection Limit		
ug/kg = parts per billion		
mg/kg = parts per million		

NOTE: ASTM Method D-2887 is similar to USEPA Method 8015. The following MDLs for petroleum fractions were used : Gasoline 1 mg/kg, fuel oil 4 mg/kg, and lube oil 10 mg/kg. All were non-detect.

TABLE 2

SOIL ANALYTICAL SUMMARY
(north excavation)
Consumers Power Company
Kalamazoo Service Center
Kalamazoo, Michigan
May 7-8, 1992

Sample Number	Depth Below Grade (ft)	BTEX ug/kg	TPH mg/kg	PNA ug/kg	PCBs ug/kg	Lead ug/kg	Cadmium ug/kg	Chromium ug/kg
SS-20	12	<10	nd	<330	<33	2600	<50	6500
SS-21	8	<10	nd	<330	<33	5200	100	9200
SS-22	10	<10	nd	<330	<33	12400	78	18300
SS-23	10	<10	nd	<330	<33	5300	60	5680
SS-24	4	<10	nd	<330	<33	12300	53	21800
SS-25	5	<10	nd	<330	<33	9700	130	15100
FSS-26	16	<10	nd	<330	<33	3500	<50	14000
FSS-27	16	<10	nd	<330	<33	1900	<50	3500
FSS-28	16	<10	nd	<330	<33	8200	<50	6500
FSS-29	16	<10	nd	<330	<33	3500	<50	8200

Analytes	Method	MDL
BTEX = Benzene, Toluene, Ethyl-benzene, and Xylenes	USEPA Method 8021	10 ug/kg
TPH = Total Petroleum Hydrocarbon	ASTM Method D-2887	see note below
PNA = Polynuclear Aromatic Hydrocarbons		
PCBs = Polychlorinated Biphenyls	USEPA Method 8270	330 ug/kg
Lead	USEPA Method 8080	33 ug/kg
Cadmium	USEPA Method 7421	1,000 ug/kg
Chromium	USEPA Method 7131	50 ug/kg
nd = Non-detect	USEPA Method 7191	200 ug/kg
MDL = Method Detection Limit		
ug/kg = parts per billion		
mg/kg = parts per million		

NOTE: ASTM Method D-2887 is similar to USEPA Method 8015. The following MDLs for petroleum fractions were used : Gasoline 1 mg/kg, fuel oil 4 mg/kg, and lube oil 10 mg/kg. All were non-detect.

TABLE 3

BACKGROUND SOIL SUMMARY

Cadmium, Chromium, and Lead

Consumers Power Company
Kalamazoo Service Center
Kalamazoo, Michigan

Sample Number	Sand Background Type A Limit (mean +3 standard devaitions) ug/kg			Clay Background Type A Limit (mean +3 standard devaitions) ug/kg			Silt Background Type A Limit (mean +3 standard devaitions) ug/kg		
	47,500	2,100	21,400	39,100	1,200	28,200	2,500	1,000	11,600
	Lead ug/kg	Cadmium ug/kg	Chromium ug/kg	Lead ug/kg	Cadmium ug/kg	Chromium ug/kg	Lead ug/kg	Cadmium ug/kg	Chromium ug/kg
Equipment Port									
SS-01-25	2,240	<50	4,690						
SS-02-50				8,510	74	16,500			
SS-03-75							9,100	320	9,200
SS-04-100	2,600	<50	6,200						
SS-05-125	2,500	<50	5,500						
SS-06-150	4,300	100	7,680						
SS-07-175	8,400	89	18,900						
SS-08-200	6,960	50	13,500						
SS-09-225	3,300	54	6,610						
SS-10-M	2,500	<50	5,500						
SS-11-WF	6,600	73	10,000						
SS-12-WF	3,250	50	5,700						
SS-13-WF	3,700	81	5,400						
SS-14-NF	2,000	<50	6,600						
SS-15-NF	2,200	<50	5,000						
SS-16-NF	1,700	<50	5,900						
SS-17-NF	2,600	<50	5,700						
North Excavation									
SS-20	2,600	<50	6,500						
SS-21	5,200	100	9,200						
SS-22				12,400	78	18,300			
SS-23				5,300	60	5,680			
SS-24				12,300	53	21,800			
SS-25				9,700	130	15,100			
FSS-26	3,500	<50	14,000						
FSS-27	1,900	<50	3,500						
FSS-28	8,200	<50	6,500						
FSS-29	3,500	<50	8,200						

TABLE 4

GROUNDWATER ANALYTICAL SUMMARY
MW-01, MW-02, and MW-04
June 15, 1992
Consumers Power Company
Kalamazoo Service Center
Kalamazoo, Michigan

Monitoring well	TPH (a)	TPH (b)	PNAs
	mg/l	mg/l	ug/l
MW-01	<0.2	nd	< .5
MW-02	<0.2	nd	< .5
MW-04	<0.2	nd	< .5

	METHOD	MDL
TPH (a)	USEPA Method 418.1	.02 mg/l
TPH (b)	ASTM Method D-2887	see note below
PNA	USEPA Method 8270	.5 ug/l

nd = non-detect
ug/l = parts per billion
mg/l = parts per million

TPH (b) - ASTM Method D-2887 - is similar to USEPA Method 8015. The following MDLs for petroleum fractions were used : gasoline range (0.2 mg/l), fuel oil range (0.2 mg/l), and lube oil range (1.0 mg/l). All were non-detect.

Appendix A
Photographs

K00004292

Photograph A_1 view of shoring around equipment port.

Photograph A_2 view of support structure for 8" fire water main

Appendix B Waste Manifests

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38730

Section I. GENERATOR (Generator completes all of Section I)

a Generator Name: Consumers Power Company
b. Generating Location: Same
c Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g Owner's Name:
h. Owner's Phone No.:

i BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8 — 017 Containers

j Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 045 Units: Y No: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations

Tony Hu-ino — Generator Authorized Agent Name
Joseph D Edwards — Signature (MTS)
Joseph D Edwards — Shipment Date: 050592

Section II TRANSPORTER (Generator complete a-d, Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a Name: M. L. Chartier, Inc.
b Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c Driver Name/Title: JEFF ELDRED (PRINT/TYPE)
d Phone No: 313-725-8373
e Truck No: 52-92
f Vehicle License No./State: ZE 7730 MI

Acknowledgement of Receipt of Materials.

g Jeff Eldred (Driver Signature) — Shipment Date: 050592

TRANSPORTER II

h. Name:
i Address:
j Driver Name/Title: (PRINT/TYPE)
k Phone No.:
l Truck No: 52-92
m Vehicle License No./State:

Acknowledgement of Receipt of Materials

n. Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
c. Phone No.: 616-781-9742
b Physical Address: 14800 P Drive North
Marshall, MI 49068
d. Mailing Address:
e Discrepancy Indication Space

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f Jay W (Name of Authorized Agent) — Signature: Jay W. — Receipt Date: 050592 B49615

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a Operator's* Name:
b. Operator's* Phone No.:
c Operator's* Address
d Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f Name and Address of Responsible Agency:

g ☐ Friable, ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004295

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91 RETURN TO OPERATOR 280-720B

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

No. 38731

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8 017 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 035 Units: Y No.: 01 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Aurino Joseph D Stewart Lloyd C Edward 050592
Generator Authorized Agent Name / Signature / Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: Roy Bertram (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 31-89
f. Vehicle License No./State: ZB0459
Acknowledgement of Receipt of Materials.
g. Roy Bertram 050592
Driver Signature / Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature / Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f.)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. / Jay W. 050592 249612
Name of Authorized Agent / Signature / Receipt Date

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) / Operator's* Signature / Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004296

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91 RETURN TO OPERATOR 260-7208

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38732

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street, Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Containers

Quantity	Units	No.	TYPE
045	Y	02	T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Aucino (Joseph D. Edwards) — Generator Authorized Agent Name
Joseph D. Edwards — Signature
050592 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy., Fair Haven, MI 48023
c. Driver Name/Title: Mike Delor (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 34-92
f. Vehicle License No./State: ZE 7833 MI

Acknowledgement of Receipt of Materials.

g. Mike Delor — Driver Signature
050592 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f.)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North, Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent
Jay W. — Signature
050592 — Receipt Date
B49619

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type)
Operator's* Signature
Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004297

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-7201

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38733

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 035 | Units: Y³ | No.: 01 | TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Aurina (Joseph D. Edwards) — Generator Authorized Agent Name
Signature
Shipment Date: 050592

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: ROY BERTRAM (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 31-89
f. Vehicle License No./State: ZB0459

Acknowledgement of Receipt of Materials.

g. Driver Signature
Shipment Date: 050592

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.: 31-87
m. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f.)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:

e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Name of Authorized Agent: Jay W.
Signature: Jay W.
Receipt Date: 050592
B49647

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type)
Operator's* Signature
Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004298

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38734

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: -095 Units: Y No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Aurino (Joseph D. Edwards) — Generator Authorized Agent Name
Joseph D. Edwards — Signature
050592 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 52-92
f. Vehicle License No./State: ZE 7738 MI
Acknowledgement of Receipt of Materials.
g. Jeff Eldred — Driver Signature
050592 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.: 52-92
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent
Jay W. — Signature
050592 — Receipt Date
B49656

Section IV ASBESTOS (Generator complete a-d; f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004299

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38735

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity	Units	Containers No.	Containers TYPE
095	Y	02	T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent/Name (Joseph Edwards) Signature: Joseph A. Edwards Shipment Date: 050592

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g; Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: MIKE DELOR (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 34-52
f. Vehicle License No./State: ZE 7833 MI
Acknowledgement of Receipt of Materials.
g. Driver Signature: Mike Delor Shipment Date: 050592

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No 34-52
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature: Shipment Date:

Section III DESTINATION (Generator completes a-d, destination site completes e-f.)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Name of Authorized Agent: Jay W. Signature: Jay W. Receipt Date: 050592 B49669

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) Operator's* Signature: Date:

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004300

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-7206

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38736

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 635 Units: Y³ Containers No.: 01 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Hunter (for Joseph D. Edwards) — Generator Authorized Agent Name
Joseph D. Edwards — Signature
050592 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g; Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: ROY BERTRAM (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 31-89
f. Vehicle License No./State: ZB0459

Acknowledgement of Receipt of Materials.

g. Roy Bertram — Driver Signature
050592 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No 31-89
m. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

n. Driver Signature
050592 — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f.)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:

e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent
Jay W. — Signature
050592 — Receipt Date
B49673

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type)
Operator's* Signature
Date

f. Name and Address of Responsible Agency:

K00004301

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-7206

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANI...

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38737

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g Owner's Name:
h. Owner's Phone No.:

i BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

j Description of Waste: Soil Contaminated with Petroleum Products

k. Containers

Quantity	Units	No	TYPE
045	Y³	02	T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged and is in proper condition for transportation according to applicable regulations

Tony Aurino (Joseph Edwards) — Generator Authorized Agent Name
Joseph Edwards — Signature
050592 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I	TRANSPORTER II
a Name: M. L. Chartier, Inc.	h Name:
b Address: 9195 Marine City Hwy. Fair Haven, MI 48023	i Address:
c Driver Name/Title: JEFF ELDRED (PRINT/TYPE)	j Driver Name/Title: (PRINT/TYPE)
d Phone No.: 313-725-8373 e. Truck No.: 52-89	k. Phone No.: l Truck No. 52-89
f Vehicle License No./State: ZE 7738 MT	m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.	Acknowledgement of Receipt of Materials.
g Driver Signature: Jeff Eldred — Shipment Date: 050592	n. Driver Signature: — Shipment Date: 05059

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
c. Phone No.: 616-781-9742
b Physical Address: 14800 P Drive North Marshall, MI 49068
d. Mailing Address:
e Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f Name of Authorized Agent: Jay W. — Signature: Jay W. — Receipt Date: 050592 E49716

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004302

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

No. 38738

Section I. GENERATOR (Generator completes all of Section I)

a Generator Name: Consumers Power Company
b. Generating Location: Same
c Address: 2500 East Cork Street
Kalamazoo, MI- 49001
d. Address:
e Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g Owner's Name:
h. Owner's Phone No.

i BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

j Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ Containers No: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name: Tony Arnold for D. Eberle
Signature: Tony Arnold for D. Eberle
Shipment Date: 050592

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g; Transporter II complete h-n)

TRANSPORTER I

a Name: M. L. Chartier, Inc.
b Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c Driver Name/Title: Mike Dieler (PRINT/TYPE)
d Phone No: 313-725-8373
e. Truck No.: 34-92
f Vehicle License No./State: 2E 7833 Mi
Acknowledgement of Receipt of Materials.
g Driver Signature: Mike Dieler
Shipment Date: 050592

TRANSPORTER II

h. Name:
i Address:
j Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l Truck No
m. Vehicle License No /State:
Acknowledgement of Receipt of Materials.
n Driver Signature:
Shipment Date:

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
b Physical Address: 14800 P Drive North
Marshall, MI 49068
c Phone No.: 616-9742 9742
d. Mailing Address:
e Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f Name of Authorized Agent: Jay W.
Signature: Jay W.
Receipt Date: 050592 B49718

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type)
Operator's* Signature:
Date:

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004303

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38739

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Containers

Quantity	Units	No.	TYPE
00035	Y³	01	T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Murano (Joseph Edwards) — Generator Authorized Agent Name
Joseph D Edwards — Signature
050 92 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: ROY BERTRAM (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 31-89
f. Vehicle License No./State: ZB0459
Acknowledgement of Receipt of Materials.
g. Roy Bertram — Driver Signature
050592 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No. 2
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent
Jay W. — Signature
050592 — Receipt Date
B49734

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: Print/Type
Operator's* Signature
Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004304

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES
NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38740

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Containers

Quantity	Units	No.	TYPE
00045	Y³	02	T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Nuttino (Joseph Edwards) — Generator Authorized Agent Name
Joseph D. Edwards — Signature
050692 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: MIKE DELOR 34 (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 92
f. Vehicle License No./State: ZE 7833
Acknowledgement of Receipt of Materials.
g. Mike Delor — Driver Signature
050692 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent
Jay W. — Signature
050692 — Receipt Date
B49774

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type)
Operator's* Signature
Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004305

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38741

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: MI 576 920415 68798

Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Arino (Joseph Edwards) — Generator Authorized Agent Name
Joseph D Edwards — Signature
050692 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 52-92
f. Vehicle License No./State: ZE 7735 MI
Acknowledgement of Receipt of Materials.
g. Jeff Eldred — Driver Signature
050692 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.: / Truck No
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent
Jay W — Signature
050692 B49776 — Receipt Date

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date
f. Name and Address of Responsible Agency:
g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004306

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38742

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity	Units	No.	TYPE
00035	Y³	01	T

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Murine (Joseph Edwards) Joseph Edwards 050692
Generator Authorized Agent Name — Signature — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: Roy Bertram (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 31-89
f. Vehicle License No./State: ZB0454
Acknowledgement of Receipt of Materials.
g. Roy Bertram 050692
Driver Signature — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n.
Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:

e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Gary W. — Gary W. — 050692 249775
Name of Authorized Agent — Signature — Receipt Date

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004307

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91 RETURN TO OPERATOR 260-7201

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38743

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8 017 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Hurne
Joseph Edwards — Generator Authorized Agent Name
Signature
Shipment Date: 050692

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a Name: M. L. Chartier, Inc.
b Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c Driver Name/Title: Mike DeLoe (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 34-92
f Vehicle License No./State: ZE 7833 MI
Acknowledgement of Receipt of Materials.
g. Mike DeLoe — Driver Signature
Shipment Date: 050692

TRANSPORTER II

h. Name:
i. Address:
j Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent
Signature
Receipt Date: 050692
D498IC

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type)
Operator's* Signature
Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004308

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-7208

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38744

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8 — 017 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Marino
Joseph Edwards — Generator Authorized Agent Name
[signature] — Signature
050692 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g Transporter II complete h-n)

TRANSPORTER I	TRANSPORTER II
a. Name: M. L. Chartier, Inc.	h. Name:
b. Address: 9195 Marine City Hwy. Fair Haven, MI 48023	i. Address:
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)	j. Driver Name/Title: (PRINT/TYPE)
d. Phone No.: 313-725-8373 e. Truck No.: 82-92	k. Phone No.: l. Truck No
f. Vehicle License No./State: ZE 7738 MI	m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.	Acknowledgement of Receipt of Materials.
g. [signature] Driver Signature — 050692 Shipment Date	n. Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
c. Phone No.: 6160781-9742
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f. Jay W. — Name of Authorized Agent
Jay W. — Signature
050692 — Receipt Date
B45816

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: Print/Type — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004309

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38745

Section I. GENERATOR (Generator completes all of Section I)

a Generator Name: Consumers Power Company
b. Generating Location: Same
c Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e Phone No.. 616-337-2439
f. Phone No..

If owner of the generating facility differs from the generator, provide:

g Owner's Name
h. Owner's Phone No..

i BFI WASTE CODE: M I | 5 7 6 | 9 2 0 4 1 5 | 6 8 7 9 8

017 Containers

j Description of Waste: Soil Contaminated with Petroleum Products

k Quantity: 00035 | Units: Y3 | No: 01 | TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law has been properly described classified and packaged, and is in proper condition for transportation according to applicable regulations

Tony Marino
Joseph Edwards
Generator Authorized Agent Name — Signature — Shipment Date 050692

Section II TRANSPORTER (Generator complete a-d, Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a Name: M. L. Chartier, Inc.
b Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c Driver Name/Title: ROY BERTRAM (PRINT/TYPE)
d Phone No: 313-725-8373
e Truck No. 31-39
f Vehicle License No /State: ZB0459

Acknowledgement of Receipt of Materials.

g Driver Signature — Shipment Date 050692

TRANSPORTER II

h Name
i Address
j Driver Name/Title (PRINT/TYPE)
k. Phone No
l Truck No
m Vehicle License No /State.

Acknowledgement of Receipt of Materials.

n Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
b Physical Address. 14800 P Drive North
Marshall, MI 49068
c Phone No 616-781-9742
d. Mailing Address.

e Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f Name of Authorized Agent — Signature — Receipt Date 050692 B49823

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a Operator's Name:
b. Operator's* Phone No.:
c Operator's* Address
d Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f Name and Address of Responsible Agency:

g ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004310

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38746

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street, Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8 — 017 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name: [signature] Signature: [signature] Shipment Date: 050692

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I	TRANSPORTER II
a. Name: M. L. Chartier, Inc.	h. Name:
b. Address: 9195 Marine City Hwy., Fair Haven, MI 48023	i. Address:
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)	j. Driver Name/Title: (PRINT/TYPE)
d. Phone No.: 313-725-8373 e. Truck No.: 52-92	k. Phone No.: l. Truck No.
f. Vehicle License No./State: ZE 7730 MI	m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.	Acknowledgement of Receipt of Materials.
g. Driver Signature: [signature] Shipment Date: 050692	n. Driver Signature: Shipment Date:

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
c. Phone No.: 616-781-9742
b. Physical Address: 14800 P Drive North, Marshall, MI 49068
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Name of Authorized Agent: Jay W. Signature: [signature] Receipt Date: 050692 B49860

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: Print/Type Operator's* Signature Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004311

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38747

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: MI 576 920415 68798 017 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00035 Units: Y³ No.: 01 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations

Tony Arring
Joseph Edwards — Generator Authorized Agent Name
[signature] — Signature
050692 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I	TRANSPORTER II
a Name: M. L. Chartier, Inc.	h Name:
b Address: 9195 Marine City Hwy. Fair Haven, MI 48023	i Address:
c Driver Name/Title: ROY BERTRAM (PRINT/TYPE)	j. Driver Name/Title: (PRINT/TYPE)
d Phone No.: 313-725-8373 e. Truck No.: 31-89	k. Phone No.: l Truck No.
f Vehicle License No./State: ZB0459	m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.	Acknowledgement of Receipt of Materials.
g [signature] Driver Signature — 050692 Shipment Date	n. Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
c. Phone No.: 616-781-9742
b Physical Address: 14800 P Drive North Marshall, MI 49068
d. Mailing Address:

e Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f. [signature] Name of Authorized Agent — [signature] Signature — 050692 Receipt Date B49861

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: Print/Type — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004312

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720B

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38748

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: MI 576 920415 68798 C17 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged and is in proper condition for transportation according to applicable regulations

Tony Aurino
Joseph D Edwards — Generator Authorized Agent Name
Joseph D Edwards — Signature
050692 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g; Transporter II complete h-n)

TRANSPORTER I	TRANSPORTER II
a Name: M. L. Chartier, Inc.	h Name:
b Address: 9195 Marine City Hwy. Fair Haven, MI 48023	i Address:
c Driver Name/Title: Mike DeLor (PRINT/TYPE)	j Driver Name/Title: (PRINT/TYPE)
d Phone No: 313-725-8373 e. Truck No: 34-92	k Phone No. l Truck No
f Vehicle License No./State: ZE 7833 mi	m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.	Acknowledgement of Receipt of Materials.
g Mike DeLor (Driver Signature) 050692 (Shipment Date)	n. (Driver Signature) (Shipment Date)

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
c. Phone No.: 616-781-9742
b Physical Address: 14800 P Drive North Marshall, MI 49068
d. Mailing Address:
e Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f Jay W. (Name of Authorized Agent) Jay W. (Signature) 050692 (Receipt Date) B49895

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e Operator's* Name & Title: (Print/Type) (Operator's* Signature) (Date)

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004313

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-7206

BROWNING-FERRIS INDUSTRIES
NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38749

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: MI 576 920415 68798 (1) Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00095 Units: Y No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Aurino
Joseph D. Edwards — Generator Authorized Agent Name
Joseph D. Edwards — Signature
05069 2 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g; Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 52-92
f. Vehicle License No./State: ZE 7738 MI
Acknowledgement of Receipt of Materials.
g. Jeff Eldred — Driver Signature
050689 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent
Jay W. — Signature
050692 — Receipt Date
D4990 2

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date
f. Name and Address of Responsible Agency:
g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004314

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38750

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street, Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: MI 576 920415 68798 C17 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00035 Units: Y³ No.: 01 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Ammes
Joseph Edwards — Generator Authorized Agent Name
Joseph D Edwards — Signature
050692 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy., Fair Haven, MI 48023
c. Driver Name/Title: 230459 PRINT/TYPE
d. Phone No.: 313-725-8373
e. Truck No.: 31-89
f. Vehicle License No./State: RCY BERTRAM
Acknowledgement of Receipt of Materials.
g. Roy Bertram — Driver Signature
050692 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: PRINT/TYPE
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f.)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North, Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent
Jay W. — Signature
050692 — Receipt Date
B49923

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: Print/Type — Operator's* Signature — Date
f. Name and Address of Responsible Agency:
g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004315

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-7200

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38752

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8 — 017 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Rivino
Joseph Edwards
Generator Authorized Agent Name

Joseph N Edwards
Signature

050692
Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 5292
f. Vehicle License No./State: ZE 7738 MI
Acknowledgement of Receipt of Materials.
g. Jeff Eldred (Driver Signature) 050692 (Shipment Date)

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. (Driver Signature) (Shipment Date)

Section III DESTINATION (Generator completes a-d, destination site completes e-f.)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. (Name of Authorized Agent) Jay W. (Signature) 050692 (Receipt Date) P49938

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) (Operator's* Signature) (Date)
f. Name and Address of Responsible Agency:
g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004316

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38751

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street, Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: MI 576 920415 68798 — 617 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y3 No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M3 - CUBIC METERS
Y3 - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations

Joseph D Edwards — Generator Authorized Agent Name
Joseph D Edwards — Signature
050692 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy., Fair Haven, MI 48023
c. Driver Name/Title: Mike DeLor (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 34-92
f. Vehicle License No./State: ZE 7833 MI
Acknowledgement of Receipt of Materials.
g. Mike DeLor — Driver Signature
050692 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North, Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f. Jay W. — Name of Authorized Agent
Jay W. — Signature
050697 — Receipt Date
B45723

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004317

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-7206

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38702

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8 — 017 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 045 Units: Y No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Aldrino — Generator Authorized Agent Name
[signature] — Signature
050692 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: Mike Delok (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 34-92
f. Vehicle License No./State: ZF 7933
Acknowledgement of Receipt of Materials.
g. Mike Delok — Driver Signature
050692 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f.)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:

e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jayle — Name of Authorized Agent
Jayle — Signature
050692 — Receipt Date
B49851

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004318

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III

No. 134861

Section I. GENERATOR (Generator completes all of Section I)

a Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 48001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g Owner's Name:
h. Owner's Phone No.:

i BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

j Description of Waste: Soil Contaminated with Petroleum Products

k Quantity: 0 0 0 4 5 Units: Y³ No.: 0 2 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Aubrey
Joseph D. Edwards — Joseph D. Edwards — 0 5 0 7 9 2
Generator Authorized Agent Name — Signature — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a Name: M. L. Chartier, Inc.
b Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c Driver Name/Title: Mike Delor (PRINT/TYPE)
d Phone No: 313-725-8373
e Truck No.: 3492
f Vehicle License No./State: ZE 7833 Mi
Acknowledgement of Receipt of Materials.
g Mike Delor — 0 5 0 7 9 2
Driver Signature — Shipment Date

TRANSPORTER II

h. Name
i Address:
j Driver Name/Title: (PRINT/TYPE)
k. Phone No.
l Truck No
m. Vehicle License No /State
Acknowledgement of Receipt of Materials.
n
Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
c. Phone No. 616-781-9742
b Physical Address: 14800 P Drive North
Marshall, MI 49068
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f Jay W. — Jay W. — 0 5 0 7 9 2 — B49959
Name of Authorized Agent — Signature — Receipt Date

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a Operator's* Name:
b. Operator's* Phone No.
c. Operator's* Address:
d Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f Name and Address of Responsible Agency:

g. ☐ Friable, ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004319

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720B

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38753

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street, Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: MI 576 920415 68798

Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00035 Units: Y³ No: 01 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Arvino
Joseph D Edwards
Generator Authorized Agent Name

Joseph D Edwards
Signature

050692
Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy., Fair Haven, MI 48023
c. Driver Name/Title: ROY BERTRAM (PRINT/TYPE)
d. Phone No: 313-725-8373
e. Truck No.: 31-89
f. Vehicle License No./State: ZB0459

Acknowledgement of Receipt of Materials.

g. Roy Bertram (Driver Signature) 050692 (Shipment Date)

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No:
l. Truck No:
m. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

n. (Driver Signature) (Shipment Date)

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North, Marshall, MI 49068
c. Phone No.: 616-571-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. (Name of Authorized Agent) Jay W. (Signature) 050752 (Receipt Date) 1249911

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) (Operator's* Signature) (Date)

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004320

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38703

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations

Terry Devine for D. Edwards — Generator Authorized Agent Name
Signature
Shipment Date: 050792

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)
d. Phone No: 313-725-8373
e. Truck No.: 52-92
f. Vehicle License No./State: ZE 7735 MI
Acknowledgement of Receipt of Materials.
g. Driver Signature — Shipment Date: 050792

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f. Name of Authorized Agent — Signature — Receipt Date: 050792 P49967

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004321

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38706

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street, Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: MI 576 920415 68798 (1) Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Avino
Joseph Edwards — Generator Authorized Agent Name
Joseph N Edwards — Signature
050792 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I	TRANSPORTER II
a. Name: M. L. Chartier, Inc.	h. Name:
b. Address: 9195 Marine City Hwy., Fair Haven, MI 48023	i. Address:
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)	j. Driver Name/Title: (PRINT/TYPE)
d. Phone No.: 313-725-8373 e. Truck No.: 52-92	k. Phone No.: l. Truck No
f. Vehicle License No./State: ZE 7735 MI	m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.	Acknowledgement of Receipt of Materials.
g. [signature] Driver Signature — 050792 Shipment Date	n. Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
c. Phone No.: 616-781-9742
b. Physical Address: 14800 P Drive North, Marshall, MI 49068
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent; Jay W. — Signature; 050792 — Receipt Date; B50015

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: Print/Type — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004322

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38705

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8 — 017 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00035 Units: Y³ No.: 01 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Aurino
Joseph Edwards — Joseph Edwards — 050792
Generator Authorized Agent Name — Signature — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I	TRANSPORTER II
a Name: M. L. Chartier, Inc.	h. Name:
b Address: 9195 Marine City Hwy. Fair Haven, MI 48023	i Address:
c Driver Name/Title: Ray Bertram (PRINT/TYPE)	j Driver Name/Title: (PRINT/TYPE)
d Phone No.: 313-725-8373 e. Truck No.: 31-89	k. Phone No.: l Truck No
f Vehicle License No./State: ZB0459	m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.	Acknowledgement of Receipt of Materials.
g Ray Bertram — 050792 (Driver Signature — Shipment Date)	n. (Driver Signature — Shipment Date)

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
b Physical Address: 14800 P Drive North, Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f Jay W — Jay C — 050792 — B50002
Name of Authorized Agent — Signature — Receipt Date

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004323

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91 — RETURN TO OPERATOR — 260-7208

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38704

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

Quantity	Units	No.	TYPE
00045	Y³	02	T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

j. Description of Waste: Soil Contaminated with Petroleum Products

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Irving
Joseph Edwards — Generator Authorized Agent Name
Joseph Edwards — Signature
050792 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: MIKE OFLOR (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 34-92
f. Vehicle License No./State: ZF 7833 MI
Acknowledgement of Receipt of Materials.
g. Mike Eflor — Driver Signature
050792 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f.)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:

e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f. Jay W. — Name of Authorized Agent
Jay W. — Signature
051792 — Receipt Date
B4999

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type)
Operator's* Signature
Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004324

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38707

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Containers

Quantity	Units	No.	TYPE
00095	Y³	02	T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Aurino
Joseph Edwards
Generator Authorized Agent Name

Joseph D Edwards
Signature

050792
Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 57-92
f. Vehicle License No./State: ZE 7738 MI
Acknowledgement of Receipt of Materials.
g. Jeff Eldred (Driver Signature) 050792 (Shipment Date)

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. (Driver Signature) (Shipment Date)

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-731-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f. Jay W. (Name of Authorized Agent) Jay W. (Signature) 050792 (Receipt Date) B50052

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) (Operator's* Signature) (Date)
f. Name and Address of Responsible Agency:
g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004325

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720B

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38709

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations

Anthony Aurino
Joseph Edwards
Generator Authorized Agent Name — Signature — Shipment Date: 050792

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g; Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: MIKE DELOR (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 34.92
f. Vehicle License No./State: ZE 7833 MI
Acknowledgement of Receipt of Materials.
g. Mike Delor — Driver Signature — Shipment Date: 050792

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent — Jay W — Signature — Receipt Date: 050792 D5005

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004326

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

No. 38708

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00035 Units: Y³ No: 01 TYPE: T

Containers

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

ANTHONY AVINO
Joseph D. Edwards — Generator Authorized Agent Name
Joseph D. Edwards — Signature
050792 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g; Transporter II complete h-n)

TRANSPORTER I

a Name: M. L. Chartier, Inc.
b Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c Driver Name/Title: ROY BERTRAM (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 31-89
f Vehicle License No./State: 2B0459
Acknowledgement of Receipt of Materials.
g. Roy Bertram — Driver Signature
050792 — Shipment Date

TRANSPORTER II

h. Name:
i Address:
j Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent
Jay W. — Signature
050792 — Receipt Date
P 50094

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type)
Operator's* Signature
Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004327

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-7201

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38710

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

Units	No.	TYPE
Y³	02	T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Joseph D Edwards — Generator Authorized Agent Name
Signature
050792 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 52-92
f. Vehicle License No./State: ZE 77350 MI

Acknowledgement of Receipt of Materials.

g. Driver Signature
050792 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:

e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Name of Authorized Agent
Signature
Receipt Date 050106

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: Print/Type
Operator's* Signature
Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004328

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES
NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

No. 38711

Section I. GENERATOR (Generator completes all of Section I)

a Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g Owner's Name:
h. Owner's Phone No..

i BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8 — 017 Containers

j Description of Waste: Soil Contaminated with Petroleum Products

k Quantity: 00045 Units: Y³ No: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Aurino
Joseph Edwards — Signature — Shipment Date 050792
Generator Authorized Agent Name

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a Name: M. L. Chartier, Inc.
b Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c Driver Name/Title: MIKE DELCR (PRINT/TYPE)
d Phone No: 313-725-8373
e. Truck No: 3492
f Vehicle License No./State: ZE 7833 MI.
Acknowledgement of Receipt of Materials.
g Mike Delcr — Driver Signature — Shipment Date 050792

TRANSPORTER II

h Name:
i Address:
j Driver Name/Title. (PRINT/TYPE)
k Phone No.:
l Truck No
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n — Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
b Physical Address: 14800 P Drive North
Marshall, MI 49068
c Phone No: 616-781-9742
d. Mailing Address:
e Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f Jay W. — Name of Authorized Agent — Jay W. — Signature — 050792 — Receipt Date — RJC131

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both ____ % friable ____ % nonfriable

K00004329

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91 — RETURN TO OPERATOR — 260-720B

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38713

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00035 Units: Y³ No.: 01 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Ayresso
Joseph Edwards
Generator Authorized Agent Name

Joseph V Edwards
Signature

050792
Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: ROY BERTRAM (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 31-89
f. Vehicle License No./State: ZB0459
Acknowledgement of Receipt of Materials.
g. Roy Bertram (Driver Signature) 050792 (Shipment Date)

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. (Driver Signature) (Shipment Date)

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f. Jay W. (Name of Authorized Agent) Jay W (Signature) 050792 (Receipt Date) B5C136

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) (Operator's* Signature) (Date)
f. Name and Address of Responsible Agency:
g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004330

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720B

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38714

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: MI 576 920415 68798 (17) Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Tony Arrieo Joseph Edwards — Generator Authorized Agent Name
Joseph D Edwards — Signature
050892 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 52-92
f. Vehicle License No./State: ZE 7738 MI
Acknowledgement of Receipt of Materials.
g. Driver Signature: Jeff Eldred — Shipment Date: 050892

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f.)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent
Jay W. — Signature
050892 — Receipt Date
B50152

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004331

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38715

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street, Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: MI 576 920415 68798 C17 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Aurino
Joseph Edwards — Generator Authorized Agent Name
Joseph W Edwards — Signature
050892 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy., Fair Haven, MI 48023
c. Driver Name/Title: MIKE DELOR (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 34-92
f. Vehicle License No./State: ZE 7833 Mi
Acknowledgement of Receipt of Materials.
g. Mike Delor — Driver Signature; 050892 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature; Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North, Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Name of Authorized Agent; Jay W — Signature; 050892 — Receipt Date; BJ0158

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004332

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38716

Section I. GENERATOR (Generator completes all of Section I)

a Generator Name: Consumers Power Company
b. Generating Location: Same
c Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g Owner's Name:
h Owner's Phone No

i BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

Units	No	TYPE
Y³	01	T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL PLASTIC BAG or WRAP
T TRUCK
O - OTHER

j Description of Waste: Soil Contaminated with Petroleum Products

k Quantity: 00035

UNITS
P POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law has been properly described classified and packaged and is in proper condition for transportation according to applicable regulations

Joseph D Edwards — Generator Authorized Agent Name
Joseph D Edwards — Signature
Shipment Date: 050892

Section II TRANSPORTER (Generator complete a-d. Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a Name: M. L. Chartier, Inc.
b Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c Driver Name/Title: Roy Bertram (PRINT/TYPE)
d Phone No: 313-725-8373
e Truck No: 31-89
f Vehicle License No /State: ZB0459
Acknowledgement of Receipt of Materials.
g Driver Signature: Roy Bertram
Shipment Date: 050892

TRANSPORTER II

h Name:
i Address:
j Driver Name/Title (PRINT/TYPE)
k Phone No
l Truck No
m Vehicle License No /State
Acknowledgement of Receipt of Materials
n Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
b Physical Address: 14800 P Drive North
Marshall, MI 49068
c Phone No: 616-781-9742
d Mailing Address:
e Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f Name of Authorized Agent: Jay W.
Signature: Jay W.
Receipt Date: 050892
D5016C

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c Operator's* Address:
d Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e Operator's* Name & Title: (Print/Type)
Operator's* Signature
Date

f Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004333

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-7201

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38717

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g Owner's Name:
h Owner's Phone No..

i BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

j Description of Waste: Soil Contaminated with Petroleum Products

k Quantity: 00045 Units: Y³ No: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described classified and packaged, and is in proper condition for transportation according to applicable regulations

Anthony Avino
Joseph Edwards
Generator Authorized Agent Name
Signature
Shipment Date 050892

Section II TRANSPORTER (Generator complete a-d, Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a Name: M. L. Chartier, Inc.
b Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c Driver Name/Title: JEFF ELDRED (PRINT/TYPE)
d Phone No: 313-725-8373
e. Truck No: 5297
f Vehicle License No /State: ZE 7738 MI
Acknowledgement of Receipt of Materials.
g Driver Signature
Shipment Date 050892

TRANSPORTER II

h Name:
i Address:
j Driver Name/Title (PRINT/TYPE)
k Phone No.:
l Truck No
m Vehicle License No /State:
Acknowledgement of Receipt of Materials
n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a Site Name: C & C Landfill
c Phone No.. 616-781-9742
b Physical Address: 14800 P Drive North
Marshall, MI 49068
d. Mailing Address:

e Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f. Name of Authorized Agent
Signature
Receipt Date 050892 P50188

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e Operator's* Name & Title: (Print/Type)
Operator's* Signature
Date

f Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004334

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

No. 38718

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No..

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8 017 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations

Anthony Alvino
Joseph Edwards — Generator Authorized Agent Name
Signature
Shipment Date: 050892

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: MIKE DELOR (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No: 34.92
f. Vehicle License No./State: ZE 7833 MI
Acknowledgement of Receipt of Materials.
g. Mike Delor — Driver Signature
Shipment Date: 050892

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title (PRINT/TYPE)
k. Phone No..
l. Truck No
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:

e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

f. Name of Authorized Agent
Signature
Receipt Date: 050892 B5C157

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type)
Operator's* Signature
Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004335

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38720

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00035 Units: Y³ No.: 01 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Aurelio
Joseph Edwards — Generator Authorized Agent Name
Joseph Edwards — Signature
050892 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: ROY BERTRAM (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 31-89
f. Vehicle License No./State: ZB0459

Acknowledgement of Receipt of Materials.

g. Roy Bertram — Driver Signature
050892 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.
m. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

n. Driver Signature
Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068.
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Gary W. — Name of Authorized Agent
Gary W. — Signature
050892 — Receipt Date
B5C206

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type)
Operator's* Signature
Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004336

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-7201

BROWNING-FERRIS INDUSTRIES

HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

waste is asbestos waste, complete Sections I, II, III and IV.
waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38721

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I | 5 7 6 | 9 2 0 4 1 5 | 6 8 7 9 8 | 01 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 | Units: Y³ | No.: 02 | TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Alvino
Joseph D. Edwards — Joseph D. Edwards — 050892
Generator Authorized Agent Name — Signature — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 52-92
f. Vehicle License No./State: ZE 7738 MI

Acknowledgement of Receipt of Materials.

g. Driver Signature — 050892 Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

n. Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:

e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Jay W. — 050892 — 550231
Name of Authorized Agent — Signature — Receipt Date

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004337

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720E

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38722

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 — 6 8 7 9 8 — 61 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 — Units: Y3 — No.: 02 — TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

ANTHONY AURIZIO
Joseph Edwards — Joseph Edwards — 050892
Generator Authorized Agent Name — Signature — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: MIKE DELOR (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 34.92
f. Vehicle License No./State: ZE 7833 MI
Acknowledgement of Receipt of Materials.
g. Mike Delor — 050892
Driver Signature — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n.
Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. — Jay W. — 050592 — B50253
Name of Authorized Agent — Signature — Receipt Date

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004338

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720F

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38723

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: MI 576 920415 68798 017 Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00035 Units: Y³ No.: 01 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations

Anthony Arimo
Joseph Edwards
Generator Authorized Agent Name

Joseph Edwards
Signature

050892
Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: ROY BERTRAM (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 3189
f. Vehicle License No./State: ZB0459
Acknowledgement of Receipt of Materials.
g. Roy Bertram (Driver Signature) 050892 (Shipment Date)

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. (Driver Signature) (Shipment Date)

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Jay W. (Name of Authorized Agent) Jay W (Signature) 050892 (Receipt Date) 350256

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

e. Operator's* Name & Title: (Print/Type) (Operator's* Signature) (Date)
f. Name and Address of Responsible Agency:
g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004339

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91

RETURN TO OPERATOR

260-720B

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

BFI

No. 38724

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street, Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Containers

Quantity	Units	No.	TYPE
00045	Y³	02	T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations

[signature] [signature] 050892

Generator Authorized Agent Name — Signature — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy., Fair Haven, MI 48023
c. Driver Name/Title: JEFF ELDRED (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 5292
f. Vehicle License No./State: ZE 7738 MI

Acknowledgement of Receipt of Materials.

g. [signature] 0 5 0 8 9 2
Driver Signature — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No
m. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

n. Driver Signature — Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North, Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:

e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Name of Authorized Agent — Signature — Receipt Date

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type) — Operator's* Signature — Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004340

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91 — GENERATOR RETAIN — 260-720B

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

No. 38725

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: M I 5 7 6 9 2 0 4 1 5 6 8 7 9 8

Containers

j. Description of Waste: Soil Contaminated with Petroleum Products

k. Quantity: 00045 Units: Y³ No.: 02 TYPE: T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260 10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name: [illegible]
Signature: [illegible]
Shipment Date: 05 09 92

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: MIKE PECK (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 34 12
f. Vehicle License No./State: ZE 7633 MI
Acknowledgement of Receipt of Materials.
g. Driver Signature: [illegible] Shipment Date: 05 09 92

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature: Shipment Date:

Section III DESTINATION (Generator completes a-d, destination site completes e-f.)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:

e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Name of Authorized Agent: Signature: Receipt Date:

Section IV ASBESTOS (Generator complete a-d, f, g, Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type) Operator's* Signature: Date:

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004341

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

2/91 GENERATOR RETAIN 260-7208

BROWNING-FERRIS INDUSTRIES

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV.
If waste is NOT asbestos waste, complete only Sections I, II and III.

No. 38726

Section I. GENERATOR (Generator completes all of Section I)

a. Generator Name: Consumers Power Company
b. Generating Location: Same
c. Address: 2500 East Cork Street
Kalamazoo, MI 49001
d. Address:
e. Phone No.: 616-337-2439
f. Phone No.:

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:

i. BFI WASTE CODE: MI 576 920415 68798

Containers

Quantity	Units	No.	TYPE
00035	Y³	01	T

TYPE
DM - METAL DRUM
DP - PLASTIC DRUM
B - BAG
BA - 6 MIL. PLASTIC BAG or WRAP
T - TRUCK
O - OTHER

UNITS
P - POUNDS
Y - YARDS
M³ - CUBIC METERS
Y³ - CUBIC YARDS
O - OTHER

j. Description of Waste: Soil Contaminated with Petroleum Products

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony [illegible] — Generator Authorized Agent Name
[illegible] — Signature
050892 — Shipment Date

Section II TRANSPORTER (Generator complete a-d; Transporter I complete e-g, Transporter II complete h-n)

TRANSPORTER I

a. Name: M. L. Chartier, Inc.
b. Address: 9195 Marine City Hwy.
Fair Haven, MI 48023
c. Driver Name/Title: ROY PERTRAM (PRINT/TYPE)
d. Phone No.: 313-725-8373
e. Truck No.: 31-89
f. Vehicle License No./State: ZBO 459

Acknowledgement of Receipt of Materials.

g. [illegible] — Driver Signature; 050892 — Shipment Date

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.:
l. Truck No.:
m. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

n. Driver Signature; Shipment Date

Section III DESTINATION (Generator completes a-d, destination site completes e-f.)

a. Site Name: C & C Landfill
b. Physical Address: 14800 P Drive North
Marshall, MI 49068
c. Phone No.: 616-781-9742
d. Mailing Address:

e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Name of Authorized Agent; Signature; Receipt Date

Section IV ASBESTOS (Generator complete a-d, f, g. Operator* completes e.)

a. Operator's* Name:
b. Operator's* Phone No.:
c. Operator's* Address:
d. Special Handling Instructions and additional information:

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations

e. Operator's* Name & Title: (Print/Type); Operator's* Signature; Date

f. Name and Address of Responsible Agency:

g. ☐ Friable; ☐ Non-friable; ☐ Both _____ % friable _____ % nonfriable

K00004342

* Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both

Appendix C
Analytical Report

To	AMAurino, Lansing-Annex	**CONSUMERS POWER COMPANY**
From	HWVoigt, T-260	
Date	May 17, 1992	Internal Correspondence
Subject	KALAMAZOO SERVICE CENTER - UST Excavation	
CC	RGNeumann, P12-123	File Index No. 519217-561-734 519217-561-756 519217-561-763

On May 07 and 08, 1992 the Chemistry and Material Service Department of Environmental and Technical Services (E&TS) received 27 soil samples from the Kalamazoo Service Center - UST excavation.

All samples were analyzed for **Polynuclear Aromatic Hydrocarbons (PAH), Aromatic Volatile Organics (BTEX), Polychlorinated Biphenyls (PCB), Total Petroleum Hydrocarbons (TPH) and Total Lead, Cadmium and Chromium.**

As specifically requested, TPH was determined by gas chromatography-flame ionization detector.

Analytical results for the organic parameters were verbally reported to AMAurnio on May 11, 1992 (am) with the recommendation the excavation be backfilled since all organic parameters were Not Detected at the appropriate Method Detection Limits.

Results of the investigation are attached for your review.

RECEIVED
MAY 26 1992
ADVANCED TECHNOLOGY

ATTACHMENT A

ANALYTICAL RESULTS

ANALYTICAL METHODS

Sample Handling - Soil sample collection and handling was conducted in accordance with SW-846 recommendations. Soil samples were iced immediately after sampling and labeling. All samples were returned to the Chemistry and Material Service Department of E&TS for analysis.

Polynuclear Aromatic Hydrocarbon (PAH) - Method 8270, Gas Chromatography / Mass Spectrometry For Semivolatile Orgaincs: Capillary Column Technique. SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition (Proposed Update Package, 1989)

Aromatic Volatile Organics (BTEX) - Method 8021, Volatile Organic Compounds in Water by Purge & Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series. SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition (Proposed Update Package, 1989)

PCB - Method 8080, Organchlorine Pesticides and PCB (PCB Only). SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition, September 1986.

TPH Distribution - State Of California, Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup and Underground Storage Tank Closure. Method ASTM D-2887, Standard Method For Boiling Range Distribution Of Petroleum Fractions By Gas Chromatography.

Soil Sample Total Lead, Cadmium, Chromium - Method 3050, Acid Digestion Of Sediments, Sludges, and Soil. **Lead** - Method 7421, Lead (Atomic Absorption, Furnace Technique). **Cadmium** - Method 7131 Cadmium, (Atomic Absorption, Furnace Technique). **Chromium** - Method 7191 Chromium, (Atomic Absorption, Furnace Technique). SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition, September 1986.

K00004346

TABLE A1a. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee #0760820				Project Number CHEM-92-0734	
Sample Identification	SS01-25	SS02-50	SS03-75	SS04-100	SS05-125	
Sample Depth (ft)	-	-	-	-	-	
Sample Type	soil	soil	soil	soil	soil	
Sample Date	05-06-92	05-06-92	05-06-92	05-06-92	05-06-92	
Received Date	05-07-92	05-07-92	05-07-92	05-07-92	05-07-92	
Analysis Date	05-08-92	05-08-92	05-08-92	05-08-92	05-08-92	
Report Date	05-15-92	05-15-92	05-15-92	05-15-92	05-15-92	
Control Number	920734-01	920734-02	920734-03	920734-04	920734-05	
BTEX, ug/kg - Method 8021						MDL
Benzene	nd	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	nd	10
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
4-Bromofluorobenzene	94	95	93	98	97	
PAH, ug/kg - Method 8270						MDL
Naphthalene	nd	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	nd	330
Dibenzo(a,h)anthracene	nd	nd	nd	nd	nd	330
Benzo(g,h,i)perylene	nd	nd	nd	nd	nd	330
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Terphenyl-d14	99	96	97	98	98	

NOTES: MDL = Method Detection Limit, ug/kg (parts-per-billion)
nd = Parameter Not Detected At MDL

Reviewed By HCW Date 05-18-92 Data File 920734

K00004347

TABLE A1b. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee #0760820				Project Number CHEM-92-0734	
Sample Identification	SS01-25	SS02-50	SS03-75	SS04-100	SS05-125	
Sample Depth (ft)	-	-	-	-	-	
Sample Type	soil	soil	soil	soil	soil	
Sample Date	05-06-92	05-06-92	05-06-92	05-06-92	05-06-92	
Received Date	05-07-92	05-07-92	05-07-92	05-07-92	05-07-92	
Analysis Date	05-08-92	05-08-92	05-08-92	05-08-92	05-08-92	
Report Date	05-15-92	05-15-92	05-15-92	05-15-92	05-15-92	
Control Number	920734-01	920734-02	920734-03	920734-04	920734-05	
PCB, ug/kg - Method 8080						MDL
Total PCB	nd	nd	nd	nd	nd	33
TPH DISTRIBUTION, mg/kg						MDL
Gasoline Range	nd	nd	nd	nd	nd	1
Fuel Oil Range	nd	nd	nd	nd	nd	4
Lube Oil Range	nd	nd	nd	nd	nd	10
TOTAL METALS, ug/kg						MDL
Cadmium	nd	74	320	nd	nd	50
Chromium	4,690	16,500	9,200	6,200	5,500	200
Lead	2,240	8,510	9,100	2,600	2,500	1,000

NOTES:

MDL = Method Detection Limit, ug/kg (parts-per-billion)

MDL = Method Detection Limit, mg/kg (parts-per-million)

nd = Parameter Not Detected At MDL

Reviewed By HWJ Date 05-18-92 Data File 920734

K00004348

TABLE A2a. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee #0760820				Project Number CHEM-92-0734	
Sample Identification	SS06-150	SS07-175	SS08-200	SS09-225	SS10-M	
Sample Depth (ft)	-	-	-	-	-	
Sample Type	soil	soil	soil	soil	soil	
Sample Date	05-06-92	05-06-92	05-06-92	05-06-92	05-06-92	
Received Date	05-07-92	05-07-92	05-07-92	05-07-92	05-07-92	
Analysis Date	05-08-92	05-08-92	05-08-92	05-08-92	05-08-92	
Report Date	05-15-92	05-15-92	05-15-92	05-15-92	05-15-92	
Control Number	920734-06	920734-07	920734-08	920734-09	920734-10	
BTEX, ug/kg - Method 8021						MDL
Benzene	nd	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	nd	10
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
4-Bromofluorobenzene	96	98	95	97	98	
PAH, ug/kg - Method 8270						MDL
Naphthalene	nd	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	nd	330
Dibenzo(a,h)anthracene	nd	nd	nd	nd	nd	330
Benzo(g,h,i)perylene	nd	nd	nd	nd	nd	330
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Terphenyl-d14	97	99	101	98	97	

NOTES: MDL = Method Detection Limit, ug/kg (parts-per-billion)
nd = Parameter Not Detected At MDL

Reviewed By HWJ Date 05-18-92 Data File 920734

K00004349

TABLE A2b. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee #0760820				Project Number CHEM-92-0734	
Sample Identification	SS06-150	SS07-175	SS08-200	SS09-225	SS10-M	
Sample Depth (ft)	-	-	-	-	-	
Sample Type	soil	soil	soil	soil	soil	
Sample Date	05-06-92	05-06-92	05-06-92	05-06-92	05-06-92	
Received Date	05-07-92	05-07-92	05-07-92	05-07-92	05-07-92	
Analysis Date	05-08-92	05-08-92	05-08-92	05-08-92	05-08-92	
Report Date	05-15-92	05-15-92	05-15-92	05-15-92	05-15-92	
Control Number	920734-06	920734-07	920734-08	920734-09	920734-10	
PCB, ug/kg - Method 8080						MDL
Total PCB	nd	nd	nd	nd	nd	33
TPH DISTRIBUTION, mg/kg						MDL
Gasoline Range	nd	nd	nd	nd	nd	1
Fuel Oil Range	nd	nd	nd	nd	nd	4
Lube Oil Range	nd	nd	nd	nd	nd	10
TOTAL METALS, ug/kg						MDL
Cadmium	100	89	50	54	nd	50
Chromium	7,680	18,900	13,500	6,610	5,500	200
Lead	4,300	8,400	6,960	3,300	2,500	1,000

NOTES:
MDL = Method Detection Limit, ug/kg (parts-per-billion)
MDL = Method Detection Limit, mg/kg (parts-per-million)
nd = Parameter Not Detected At MDL

Reviewed By HWJ Date 05-18-92 Data File 920734

K00004350

TABLE A3a. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee #0760820				Project Number CHEM-92-0734	
Sample Identification	SS11-WF	SS12-WF	SS13-WF	SS13-NF	SS15-NF	
Sample Depth (ft)	-	-	-	-	-	
Sample Type	soil	soil	soil	soil	soil	
Sample Date	05-06-92	05-06-92	05-06-92	05-06-92	05-06-92	
Received Date	05-07-92	05-07-92	05-07-92	05-07-92	05-07-92	
Analysis Date	05-09-92	05-09-92	05-09-92	05-09-92	05-09-92	
Report Date	05-15-92	05-15-92	05-15-92	05-15-92	05-15-92	
Control Number	920734-11	920734-12	920734-13	920734-14	920734-15	
BTEX, ug/kg - Method 8021						MDL
Benzene	nd	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	nd	10
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
4-Bromofluorobenzene	93	96	97	95	96	
PAH, ug/kg - Method 8270						MDL
Naphthalene	nd	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	nd	330
Dibenzo(a,h)anthracene	nd	nd	nd	nd	nd	330
Benzo(g,h,i)perylene	nd	nd	nd	nd	nd	330
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Terphenyl-d14	96	98	98	97	96	

NOTES: MDL = Method Detection Limit, ug/kg (parts-per-billion)
nd = Parameter Not Detected At MDL

Reviewed By HWJ Date 05-18-92 Data File 920734

K00004351

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee #0760820				Project Number CHEM-92-0734	
Sample Identification	SS11-WF	SS12-WF	SS13-WF	SS13-NF	SS15-NF	
Sample Depth (ft)	-	-	-	-	-	
Sample Type	soil	soil	soil	soil	soil	
Sample Date	05-06-92	05-06-92	05-06-92	05-06-92	05-06-92	
Received Date	05-07-92	05-07-92	05-07-92	05-07-92	05-07-92	
Analysis Date	05-09-92	05-09-92	05-09-92	05-09-92	05-09-92	
Report Date	05-15-92	05-15-92	05-15-92	05-15-92	05-15-92	
Control Number	920734-11	920734-12	920734-13	920734-14	920734-15	
PCB, ug/kg - Method 8080						MDL
Total PCB	nd	nd	nd	nd	nd	33
TPH DISTRIBUTION, mg/kg						MDL
Gasoline Range	nd	nd	nd	nd	nd	1
Fuel Oil Range	nd	nd	nd	nd	nd	4
Lube Oil Range	nd	nd	nd	nd	nd	10
TOTAL METALS, ug/kg						MDL
Cadmium	73	50	81	nd	nd	50
Chromium	10,000	5,700	5,400	6,600	5,000	200
Lead	6,600	3,250	3,700	2,000	2,200	1,000

NOTES:

MDL = Method Detection Limit, ug/kg (parts-per-billion)

MDL = Method Detection Limit, mg/kg (parts-per-million)

nd = Parameter Not Detected At MDL

Reviewed By HCWJ Date 05-18-92 Data File 920734

K00004352

TABLE A4a. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee #0760820					Project Number CHEM-92-0734
Sample Identification	SS16-NF	SS17-NF				
Sample Depth (ft)	-	-				
Sample Type	soil	soil				
Sample Date	05-06-92	05-06-92				
Received Date	05-07-92	05-07-92				
Analysis Date	05-09-92	05-09-92				
Report Date	05-15-92	05-15-92				
Control Number	920734-16	920734-17				
BTEX, ug/kg - Method 8021						MDL
Benzene	nd	nd				10
Toluene	nd	nd				10
Ethylbenzene	nd	nd				10
m/p-Xylene	nd	nd				10
o-Xylene	nd	nd				10
Surrogate Recovery	% Recovery	% Recovery				
4-Bromofluorobenzene	93	96				
PAH, ug/kg - Method 8270						MDL
Naphthalene	nd	nd				330
Acenaphthylene	nd	nd				330
Acenaphthene	nd	nd				330
Fluorene	nd	nd				330
Phenanthrene	nd	nd				330
Anthracene	nd	nd				330
Fluoranthene	nd	nd				330
Pyrene	nd	nd				330
Benzo(a)anthracene	nd	nd				330
Chrysene	nd	nd				330
Benzo(b)fluoranthene	nd	nd				330
Benzo(k)fluoranthene	nd	nd				330
Benzo(a)pyrene	nd	nd				330
Indeno(1,2,3-cd)pyrene	nd	nd				330
Dibenzo(a,h)anthracene	nd	nd				330
Benzo(g,h,i)perylene	nd	nd				330
Surrogate Recovery	% Recovery	% Recovery				
Terphenyl-d14	96	98				

NOTES: MDL = Method Detection Limit, ug/kg (parts-per-billion)
nd = Parameter Not Detected At MDL

Reviewed By HWJ Date 05-18-92 Data File 920734

K00004353

TABLE A4b. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee #0760820					Project Number CHEM-92-0734
Sample Identification	SS16-NF	SS17-NF				
Sample Depth (ft)	-	-				
Sample Type	soil	soil				
Sample Date	05-06-92	05-06-92				
Received Date	05-07-92	05-07-92				
Analysis Date	05-09-92	05-09-92				
Report Date	05-15-92	05-15-92				
Control Number	920734-16	920734-17				
PCB, ug/kg - Method 8080						MDL
Total PCB	nd	nd				33
TPH DISTRIBUTION, mg/kg						MDL
Gasoline Range	nd	nd				1
Fuel Oil Range	nd	nd				4
Lube Oil Range	nd	nd				10
TOTAL METALS, ug/kg						MDL
Cadmium	nd	nd				50
Chromium	5,900	5,700				200
Lead	1,700	2,600				1,000

NOTES:

MDL = Method Detection Limit, ug/kg (parts-per-billion)

MDL = Method Detection Limit, mg/kg (parts-per-million)

nd = Parameter Not Detected At MDL

Reviewed By HWJ Date 05-18-92 Data File 920734

K00004354

TABLE A5a. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee #0760820				Project Number CHEM-92-0756	
Sample Identification	SS24	SS25	FSS26	FSS27	FSS29	
Sample Depth (ft)	-	-	-	-	-	
Sample Type	soil	soil	soil	soil	soil	
Sample Date	05-07-92	05-07-92	05-07-92	05-07-92	05-07-92	
Received Date	05-08-92	05-08-92	05-08-92	05-08-92	05-08-92	
Analysis Date	05-10-92	05-10-92	05-10-92	05-10-92	05-10-92	
Report Date	05-15-92	05-15-92	05-15-92	05-15-92	05-15-92	
Control Number	920756-01	920756-02	920756-03	920756-04	920756-05	
BTEX, ug/kg - Method 8021						MDL
Benzene	nd	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	nd	10
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
4-Bromofluorobenzene	99	97	96	94	97	
PAH, ug/kg - Method 8270						MDL
Naphthalene	nd	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	nd	330
Dibenzo(a,h)anthracene	nd	nd	nd	nd	nd	330
Benzo(g,h,i)perylene	nd	nd	nd	nd	nd	330
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Terphenyl-d14	98	102	101	99	97	

NOTES: MDL = Method Detection Limit, ug/kg (parts-per-billion)
nd = Parameter Not Detected At MDL

Reviewed By HWJ Date 05-18-92 Data File 920734

K00004355

TABLE A5b. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee #0760820				Project Number CHEM 92 0756	
Sample Identification	SS24	SS25	FSS26	FSS27	FSS29	
Sample Depth (ft)	–	–	–	–	–	
Sample Type	soil	soil	soil	soil	soil	
Sample Date	05-07-92	05-07-92	05-07-92	05-07-92	05-07-92	
Received Date	05-08-92	05-08-92	05-08-92	05-08-92	05-08-92	
Analysis Date	05-10-92	05-10-92	05-10-92	05-10-92	05-10-92	
Report Date	05-15-92	05-15-92	05-15-92	05-15-92	05-15-92	
Control Number	920756-01	920756-02	920756-03	920756-04	920756-05	
PCB, ug/kg – Method 8080						MDL
Total PCB	nd	nd	nd	nd	nd	33
TPH DISTRIBUTION, mg/kg						MDL
Gasoline Range	nd	nd	nd	nd	nd	1
Fuel Oil Range	nd	nd	nd	nd	nd	4
Lube Oil Range	nd	nd	nd	nd	nd	10
TOTAL METALS, ug/kg						MDL
Cadmium	53	130	nd	nd	nd	50
Chromium	21,800	15,100	14,000	3,500	8,200	200
Lead	12,300	9,700	3,500	1,900	3,500	1,000

NOTES:

MDL = Method Detection Limit, ug/kg (parts-per-billion)

MDL = Method Detection Limit, mg/kg (parts-per-million)

nd = Parameter Not Detected At MDL

Reviewed By [signature] Date 05-12-92 Data File 920734

K00004356

TABLE A6a. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee #0760820				Project Number CHEM-92-0763	
Sample Identification	SS20	SS21	SS22	SS23	FSS28	
Sample Depth (ft)	-	-	-	-	-	
Sample Type	soil	soil	soil	soil	soil	
Sample Date	05-08-92	05-08-92	05-08-92	05-08-92	05-08-92	
Received Date	05-08-92	05-08-92	05-08-92	05-08-92	05-08-92	
Analysis Date	05-11-92	05-11-92	05-11-92	05-11-92	05-11-92	
Report Date	05-15-92	05-15-92	05-15-92	05-15-92	05-15-92	
Control Number	920763-01	920763-02	920763-03	920763-04	920763-05	
BTEX, ug/kg - Method 8021						MDL
Benzene	nd	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	nd	10
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
4-Bromofluorobenzene	98	95	97	98	94	
PAH, ug/kg - Method 8270						MDL
Naphthalene	nd	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	nd	330
Dibenzo(a,h)anthracene	nd	nd	nd	nd	nd	330
Benzo(g,h,i)perylene	nd	nd	nd	nd	nd	330
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Terphenyl-d14	99	101	97	96	98	

NOTES: MDL = Method Detection Limit, ug/kg (parts-per-billion)
nd = Parameter Not Detected At MDL

Reviewed By HWJ Date 05-18-92 Data File 920734

K00004357

TABLE A6b. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee #0760820				Project Number CHEM-92-0763	
Sample Identification	SS20	SS21	SS22	SS23	FSS28	
Sample Depth (ft)	-	-	-	-	-	
Sample Type	soil	soil	soil	soil	soil	
Sample Date	05-08-92	05-08-92	05-08-92	05-08-92	05-08-92	
Received Date	05-08-92	05-08-92	05-08-92	05-08-92	05-08-92	
Analysis Date	05-11-92	05-11-92	05-11-92	05-11-92	05-11-92	
Report Date	05-15-92	05-15-92	05-15-92	05-15-92	05-15-92	
Control Number	920763-01	920763-02	920763-03	920763-04	920763-05	
PCB, ug/kg - Method 8080						MDL
Total PCB	nd	nd	nd	nd	nd	33
TPH DISTRIBUTION, mg/kg						MDL
Gasoline Range	nd	nd	nd	nd	nd	1
Fuel Oil Range	nd	nd	nd	nd	nd	4
Lube Oil Range	nd	nd	nd	nd	nd	10
TOTAL METALS, ug/kg						MDL
Cadmium	nd	100	78	60	nd	50
Chromium	6,500	9,200	18,300	5,680	6,500	200
Lead	2,600	5,200	12,400	5,300	8,200	1,000

NOTES:

MDL = Method Detection Limit, ug/kg (parts-per-billion)

MDL = Method Detection Limit, mg/kg (parts-per-million)

nd = Parameter Not Detected At MDL

Reviewed By HWJ Date 05-18-92 Data File 920734

K00004358

ATTACHMENT B

CHAIN-OF-CUSTODY RECORDS

McNAMEE
ENGINEERING EXCELLENCE SINCE 1914

CHAIN-OF-CUSTODY RECORD

№ 008

McNamee Advanced Technology, Inc., 3135 S. State Street, Suite 301, Ann Arbor, MI 48108

CLIENT: CPCo
ADDRESS: 2500 Cork ST.
PROJECT NO.: 0760820
PROJECT NAME: CPCo-KZOO Service Co
PHONE NO.: —
CLIENT CONTACT: Tony Aurino
SAMPLER: Joseph D Edwards

ITEM NO.	SAMPLE NUMBER	DATE 92	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TPH	PAH	PCB	Pb	Cd	Cr	BTEX	REMARKS
1	SS11-WF	5-6	1600		X	Soil Floor samples	2	X	X	X	X	X	X	X	
2	SS12-WF		1607		X		2	X	X	X	X	X	X	X	MDNR SCANS or SW 846 Equivalent
3	SS13-WF		1610		X		2	X	X	X	X	X	X	X	
4	SS14-NF		0905		X		2	X	X	X	X	X	X	X	Low level
5	SS15-NF		1600		X		2	X	X	X	X	X	X	X	PPB
6	SS16-NF		1551		X		2	X	X	X	X	X	X	X	
7	SS17-NF		1555		X		2	X	X	X	X	X	X	X	
8															
9															
10															

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE 92	TIME
1	1-7	Joseph D Edwards	Pony Express	5-6	
2	1-7	—	[illegible]	5-7-8	0930
3					
4					

REMARKS: 92-734

1640

SAMPLER'S SIGNATURE

K00004360

McNAMEE
ENGINEERING EXCELLENCE SINCE 1914

CHAIN-OF-CUSTODY RECORD

№ 018

McNamee Advanced Technology, Inc., 3135 S. State Street, Suite 301, Ann Arbor, MI 48108

CLIENT: CPCo

ADDRESS: 2500 Cork Street

PROJECT NO.: 0760820

PROJECT NAME: CPCo K-200

PHONE NO.:

CLIENT CONTACT: Anthony Aurinco

SAMPLER: Joseph D. Edwards

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)

ITEM NO	SAMPLE NUMBER	DATE 92	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TPH	PNA	PCB	Pb	Cd	Cr	BTEX	REMARKS
1	SS01-25	5-6	1607		X	Soil	2	X	X	X	X	X	X	X	
2	SS02-50	5-6	1613		X		2	X	X	X	X	X	X	X	MDNR SCANS
3	SS03-75		1620		X		2	X	X	X	X	X	X	X	OR EQUIVALENT
4	SS04-100		1630		X		2	X	X	X	X	X	X	X	SW-846
5	SS05-125		1009		X		2	X	X	X	X	X	X	X	Low level detection
6	SS06-150		1001		X		2	X	X	X	X	X	X	X	Report in PPb
7	SS07-175		0952		X		2	X	X	X	X	X	X	X	
8	SS08-200		1540		X		2	X	X	X	X	X	X	X	
9	SS09-225		1549		X		2	X	X	X	X	X	X	X	
10	SS10-M		1546		X		2	X	X	X	X	X	X	X	

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	All	Joseph D. Edwards	Pony Express	5-6	1640
2	1-10		[illegible]	5-28	0930
3					
4					

REMARKS: 92-734

SAMPLER'S SIGNATURE

K00004361

McNAMEE
ENGINEERING EXCELLENCE SINCE 1914

CHAIN-OF-CUSTODY RECORD

№ 016

McNamee Advanced Technology, Inc., 3135 S. State Street, Suite 301, Ann Arbor, MI 48108

CLIENT: CPC - Kalamazoo
ADDRESS: 2500 Cole Street
PROJECT NO.: 060820
PROJECT NAME: K-200 SOIL EXC.
PHONE NO.:
CLIENT CONTACT: Tony Herring
SAMPLER: Joseph D. Edwards

ITEM NO.	SAMPLE NUMBER	DATE 92	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TPH	PNA	PCB	BTEX	Pb	Cd	Cr	REMARKS
1	SS24	5-7	1310		X	SS24-[redacted] SOIL	2	X	X	X	X	X	X	X	
2	SS25		1315		X	SS25-[redacted] SOIL	2	X	X	X	X	X	X	X	MDNR SCANS
3	FSS26		1115		X	SOIL	2	X	X	X	X	X	X	X	or SW 8446
4	FSS27		1330		X	SOIL	2	X	X	X	X	X	X	X	EQUIVALENT
5	FSS29		1335		X	SOIL	2	X	X	X	X	X	X	X	
6															
7															
8															
9															
10															

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-5	Joseph D. Edwards	Tony Herring	5-7	1600
2	1-5	—	[illegible]	5/8	1540
3					
4					

REMARKS: TPH [redacted] analysis should be done by G.C. Method 8015 Mod. Calif. These samples and samples sent from same location on 5-6-92

92-75

SAMPLER'S SIGNATURE: Joseph D. Edwards

K0000436 2

McNAMEE
ENGINEERING EXCELLENCE SINCE 1914

CHAIN-OF-CUSTODY RECORD

№ 006

McNamee Advanced Technology, Inc., 3135 S. State Street, Suite 301, Ann Arbor, MI 48108

CLIENT: CPC - Kalamazoo
ADDRESS: 2500 S Park St.
PROJECT NO.: 0760920
PROJECT NAME: Kalamazoo Soil Exc.
PHONE NO.: —
CLIENT CONTACT: Tony Rivino
SAMPLER: Joseph D Edwards

ITEM NO.	SAMPLE NUMBER	DATE 92	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND ~~POINT OF SAMPLE~~)	NUMBER OF CONTAINERS	TPH	PNA	PCB	Pb	BTEX	VOC		REMARKS
1	SS20	5.8	0745		X	Soil	2	X	X	X	X	X	X	X	MDNR SCANS
2	SS21		0920		X		2	X	X	X	X	X	X	X	or SW846
3	SS22		1020		X		2	X	X	X	X	X	X	X	EQUIVALENT
4	SS23		0937		X		2	X	X	X	X	X	X	X	
5	FSS28		0845		X		2	X	X	X	X	X	X	X	TPH USE METHOD SW846 8015 G.C.
6															
7															
8															
9															
10															

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-5	Joseph D Edwards	Pony Express	5.8	1700
2	1-5	—	J Platt	5/8	1535
3					
4					

REMARKS: 92-763

SAMPLER'S SIGNATURE: Joseph D Edwards

K00004363

RECEIVED
JUL 06 1992
McNAMEE INDUSTRIAL SERVICES, INC.
BY

To	AMAurino, Lansing Annex	CONSUMERS POWER COMPANY
From	HWVoigt, T-260	
Date	June 30, 1992	Internal Correspondence
Subject	KALAMAZOO SERVICE CENTER - Monitoring Well Groundwater Samples - McNamee Investigation Of 06-15-92	
CC	RGNeumann, P12-123	File Index No. 529217-561-004

On June 15, 1992 the Chemistry and Material Service Department (C&MS) of Environmental and Technical Services received three groundwater samples collected at the Kalamazoo Service Center -site investigation.

All samples were analyzed for **Polynuclear Aromatic Hydrocarbons (PAH)** and **Total Petroleum Hydrocarbons (TPH)**.

As specifically requested, TPH was determined by gas chromatography-flame ionization detector, and also by Method 418.1.

Analytical results are attached for your review.

K00004364

ATTACHMENT A

ANALYTICAL RESULTS

ANALYTICAL METHODS

Sample Handling - Sample collection and handling was conducted in accordance with SW-846 recommendations. Samples were iced immediately after sampling and labeling. All samples were returned to the Chemistry and Material Service Department analysis.

Polynuclear Aromatic Hydrocarbon (PAH) - Method 8270, Gas Chromatography / Mass Spectrometry For Semivolatile Orgaincs: Capillary Column Technique. SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition (Proposed Update Package, 1989)

TPH Distribution - State Of California, Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup and Underground Storage Tank Closure. Method ASTM D-2887, Standard Method For Boiling Range Distribution Of Petroleum Fractions By Gas Chromatography.

Total Petroleum Hydrocarbons (TPH) - Water Samples - EPA Method 418.1, Petroleum Hydrocarbons, Total Recoverable (Infrared Spectrophotometric Method). Methods for Chemical Analysis of Water and Waste, USEPA EPA-600/4-79-020, March 1979 3550,

K00004366

TABLE A1. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - UST Excavation - McNamee					Project Number CHEM-92-1004
Sample Identification	MW-01	MW-02	MW-03			
Sample Depth (ft)	-	-	-			
Sample Type	water	water	water			
Sample Date	06-15-92	06-15-92	06-15-92			
Received Date	06-16-92	06-16-92	06-16-92			
Analysis Date	06-22-92	06-22-92	06-22-92			
Report Date	06-29-92	06-29-92	06-29-92			
Control Number	921004-01	921004-02	921004-03			
PAH, ug/L - Method 8270						MDL
Naphthalene	nd	nd	nd			5
Acenaphthylene	nd	nd	nd			5
Acenaphthene	nd	nd	nd			5
Fluorene	nd	nd	nd			5
Phenanthrene	nd	nd	nd			5
Anthracene	nd	nd	nd			5
Fluoranthene	nd	nd	nd			5
Pyrene	nd	nd	nd			5
Benzo(a)anthracene	nd	nd	nd			5
Chrysene	nd	nd	nd			5
Benzo(b)fluoranthene	nd	nd	nd			5
Benzo(k)fluoranthene	nd	nd	nd			5
Benzo(a)pyrene	nd	nd	nd			5
Indeno(1,2,3-cd)pyrene	nd	nd	nd			5
Dibenzo(a,h)anthracene	nd	nd	nd			5
Benzo(g,h,i)perylene	nd	nd	nd			5
Surrogate Recovery	% Recovery	% Recovery	% Recovery			
Terphenyl-d14	103	96	98			
TPH DISTRIBUTION, mg/L						MDL
Gasoline Range	nd	nd	nd			0.2
Fuel Oil Range	nd	nd	nd			0.2
Lube Oil Range	nd	nd	nd			1.0
TPH, mg/L - Method 418.1						MDL
TPH	nd	nd	nd			0.2

NOTES:
MDL = Method Detection Limit, ug/L (parts-per-billion)
MDL = Method Detection Limit, mg/L (parts-per-million)
nd = Parameter Not Detected At MDL

Reviewed By [illegible] Date 06-30-92 Data File 911004

K00004367

ATTACHMENT B

CHAIN-OF-CUSTODY RECORDS

CHAIN OF CUSTODY

CONSUMERS POWER COMPANY
ENVIRONMENTAL & TECHNICAL SERVICES
135 W. TRAIL ST.
JACKSON, MICHIGAN 49201
(517) 788-1251
FAX (517) 788-1104

PAGE ____ OF ____

SEND REPORT TO :

PHONE :

SAMPLING SITE : CPCo Service Center. 2500 E. Cork Street Kalamazoo, MI.

PROJECT NUMBER : McNamee Ind Services

SAMPLING TEAM : J.D. Edwards

DATE SHIPPED : 6-15-92

SITE SKETCH ATTACHED ? CIRCLE ONE : YES NO

ANALYSIS REQUESTED

	CPCO CONTROL NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE TYPE	SAMPLE DESCRIPTION / LOCATION	SAMPLE DEPTH	# OF CONTAINERS	TPH	PNA						REMARKS
1		6-15-92	1415	H_2O	WATER MW01	—	2 QTS	X	X						TPH. By 8015
3			1430	H_2O	WATER MW04	—	2 "	X	X						TPH By 418.1
2			1445	H_2O	WATER MW02	—	2 "	X	X						PNA By 8270

RELINQUISHED BY : (SIGNATURE)	DATE / TIME	RECEIVED BY : (SIGNATURE)
J. Edwards	6-15-92 1530	Pony Express CPCo
RELINQUISHED BY : (SIGNATURE)	DATE / TIME	RECEIVED BY : (SIGNATURE)
	6/16/92 1100	[signature] via Pony
RELINQUISHED BY : (SIGNATURE)	DATE / TIME	RECEIVED BY : (SIGNATURE)

COMMENTS : Report in Low level Detections be consistent with MDL's of April 1992 MERA Document.

92-1004

K00004369

EXHIBIT 2 A

7-30-93

MDNR (MDEQ) RESPONSE (DWIAL)

K00004370

Rec'D 8/4/93

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
JERRY C. BARTNIK
LARRY DEVUYST
PAUL EISELE
JAMES P. HILL
DAVID HOLLI
JOEY M. SPANO
JORDAN B. TATTER

JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

ROLAND HARMES, Director

Plainwell District Headquarters
Environmental Response Division
1342-B M-89, Plainwell, Michigan 49080-1915

July 30, 1993

Mr. Robert Neumann
Consumers Power Company
Environmental and Technical Services Dept.
212 West Michigan Avenue
Jackson, MI 49201

Dear Mr. Neumann:

SUBJECT: Release From a 4000 Gallon Diesel Underground Storage Tank (UST) (System #3) at Consumers Power Kalamazoo Service Center, 2500 E. Cork Street, Kalamazoo, Kalamazoo County

The Michigan Department of Natural Resources (MDNR) is in receipt of your submittal requesting concurrence that no further remedial actions are necessary at the above facility. The release of regulated substances from the UST system was reported as a confirmed release on December 8, 1989.

Based upon staff review of the summary of work performed, we cannot concur with the request until the following concerns are addressed:

1. Michigan Background Soil Survey means and standard deviations cannot be used to determine site specific background concentrations. To calculate site specific background levels as detailed in Michigan Department of Natural Resources (MDNR) guidance document "Verification of Soil Remediation" (VSR), soil samples from each soil type must be collected from an area on the site which has not been impacted by any release. These samples must then be analyzed and the results utilized in accordance with VSR for determination of applicable site specific background values.

   With the exception of chromium, however, metals values demonstrated on the site are less than currently acceptable Michigan Default Background levels for metals. The Michigan Default Background level for chromium is 18 parts per million (ppm). Levels of 18.3, 18.9 and 21.8 ppm were exhibited in samples collected from this site. The current Type B Criteria for chromium is 2.4 ppm. However, at the time closure was requested for this site, the previous Type B Criteria of 140 ppm was in effect. Therefore, no further remedial actions are required for metals contamination.

2. Was groundwater encountered in the base of the UST excavation?

3. In the January ~~9~~ 6, 1992 report, soil samples from SB1-4 and the groundwater sample collected from SB1 were analyzed for only 12 Polynuclear Aromatic Hydrocarbons (PNAs). Please explain why samples were not analyzed for the other four PNAs.

K00004371

If you have any questions, please do not hesitate to contact me at the telephone number below.

Sincerely,

Debra S. Clark

Debra S. Clark
Environmental Response Division
Plainwell District Office
616-692-2120

DSC/cjf

cc: Mr. Joe Edwards, McNamee Industrial Services

EXHIBIT 2 B

9-28-93

Consumers Response to
7-30-93 MDNR response

K00004373

Consumers Power
POWERING MICHIGAN'S PROGRESS
General Offices: 212 West Michigan Avenue, Jackson, MI 49201 • (517) 788-0550

September 28, 1993 7SM905.9.7

Ms Debra S Clark
Environmental Response Division
Plainwell District Office
Michigan Department of Natural Resources
1342-B M-89
Plainwell, MI 49080-1915

4000 GALLON DIESEL UST (SYSTEM #3)
KALAMAZOO SERVICE CENTER
KALAMAZOO, KALAMAZOO COUNTY

On August 4, 1993, Consumers Power Company (CPCo) received a July 30, 1993 correspondence from the Michigan Department of Natural Resources which denied our September 25, 1992 request for closure. In response to the August 4, 1993 correspondence, the following reply is provided for consideration which addresses each comment by the Department of Natural Resources (DNR).

DNR Comment #1: "Michigan Background Soil Survey means any standard deviations cannot be used to determine site specific background concentrations. To calculate site specific background levels as detailed in Michigan Department of Natural Resources (MDNR) guidance document "Verification of Soil Remediation" (VSR), soil samples from each soil type must be collected from an area on the site which has not been impacted by any release. These samples must then be analyzed and the results utilized in accordance with VSR for determination of applicable site specific background values.

With the exception of chromium, however, metals values demonstrated on the site are less than currently acceptable Michigan Default Background levels for metals. The Michigan Default Background level for chromium is 18 parts per million (ppm). Levels of 18.3, 18.9 and 21.8 ppm were exhibited in samples collected from this site. The current Type B Criteria for chromium is 2.4 ppm. However, at the time closure was requested for this site, the previous Type B Criteria of 140 ppm was in effect. Therefore, no further remedial actions are required for metals contamination."

CPCo Response: CPCo very much appreciates the DNR conclusion that no further actions are required for metals contamination.

DNR Comment #2: "Was groundwater encountered in the base of the UST excavation?"

CPCo Response: Groundwater was not encountered during UST excavation activities.

K00004374

A CMS ENERGY COMPANY

DNR Comment #3: "In the January 9, 1992 report, soil samples from SB1-4 and the groundwater sample collected from SB1 were analyzed for only 12 Polynuclear Aromatic Hydrocarbons (PNAs). Please explain why samples were not analyzed for the other four PNAs." (Note: The correct report date was January 6, 1992.)

CPCo Response: Our consultant, McNamee Industrial Services, Inc (MIS), has investigated the request and provided the attached August 23, 1993 and September 14, 1993 responses. The September 14, 1993 MIS response contains a reprint of the questioned analytical report. The reprint indicates that all 16 PNA constituents were analyzed and further indicates that all 16 PNA constituents are at non-detectable concentrations.

SUMMARY

Based upon the above stated responses, we renew our request for closure at the former 4,000 gallon diesel UST system (System #3) location at the Kalamazoo Service Center. If there are any questions or comments regarding our responses, please do not hesitate to contact me on 517-788-0350.

Robert G Neumann, PE
UST Compliance Engineer
Environmental and Technical Services Department

BCC AMAurino, Lansing Annex
AFGoodman, M-1049
RCWhiting, P-22-534
GMolchan, McNamee Industrial Services

K00004376

00993-53.RGN

McNAMEE
ENGINEERING EXCELLENCE
SINCE 1914

McNAMEE INDUSTRIAL SERVICES, INC.

3131 South State Street / Suite 300 • Ann Arbor, MI 48108 • Telephone (313) 665-3999 • Fax: (313) 665-2570

August 23, 1993

Mr. Robert E. Neumann, P.E.
UST Compliance Engineer
Environment and Technical Services Department
Consumers Power Company
1945 W. Parnall Road, Room P11-050E
Jackson, Michigan 49201

RE: Response to MDNR Comments of July 30, 1993
Former Diesel UST System
Kalamazoo Service Center

Dear Mr. Neumann:

In response to your request of August 10, 1993, MIS has prepared a reply to the MDNR's question concerning 12 of 16 Polynuclear Aromatic Hydrocarbons analyzed in the soil samples collected from SB-1 through SB-4 and the groundwater sample collected from SB-1.

Recent discussions with Thermal Analytical have determined that two possible reasons for the unreported PNAs exist. The first possibility would have been an undocumented request for the limited PNAs. This is, in my opinion, an unlikely possibility because of the completeness of the Chain-of-Custody and the use of phone conversation logs by MIS personnel. The second, and more likely, possibility is that an error occurred in the reporting of the data by Thermal Analytical. Mr. Michael Dew, of Thermal Analytical, indicated that they would have run the full PNA scan whether a limited number of PNA parameters were requested or not.

In addition, Thermal Analytical indicated that an original analytical report and corresponding data set exist at their file storage facility. From the original data set, an amended report could be produced which would include all 16 PNA parameters. We have requested this information and expect it by August 27, 1993.

Our reply has been developed from a review of the analytical results, Chain-of-Custody, phone conversation logs, and field notes, as well as conversations with Mr. Dew.

If you have any questions or comments concerning this response, please call me or Michael R. Gebhard at (313) 665-3999.

Sincerely,

Gary A. Molchan
Manager, Environmental Services

MRG:qs

K00004377

p:\mis\0760820\LTR8_18a.doc

McNAMEE
ENGINEERING EXCELLENCE
SINCE 1914

McNAMEE INDUSTRIAL SERVICES, INC.

3131 South State Street / Suite 300 • Ann Arbor, MI 48108 • Telephone (313) 665-3999 • Fax: (313) 665-2570

September 14, 1993

Robert E. Neumann, P.E.
UST Compliance Engineer
Environment and Technical Services Department
Consumers Power Company
212 W. Michigan Avenue
Jackson, Michigan 49201

Re: Reprint of the Complete Analytical Report of February 1990
Kalamazoo Service Center

Dear Mr. Neumann:

McNamee Industrial Services, Inc. (MIS) has obtained, from Thermal Analytical Inc., a reprint of the complete analytical report of February 1990 for the Kalamazoo Service Center. A copy of the analytical report is attached. The results show that Polynuclear Aromatic Hydrocarbons were not detected at or above method detection limits for all the samples submitted at that time.

If you have any questions or comments concerning this information, please contact me at (313) 665-3999.

Sincerely,

Michael R. Gebhard
Project Hydrogeologist

Enclosure

MRG
076.08.20

K00004378

THERMO ANALYTICAL, INC./ERG
525 Avis Drive, Suite 7
Ann Arbor, Michigan 48108

Phone: (313) 662-3104

MCNAMEE INDUSTRIAL SERVICES
3135 S. STATE
ANN ARBOR, MI. 48108

Attn: RANDY GOTTLER

Purchase Order: VERBAL
Invoice Number:

Order #: E3-08-170
Date: 08/26/93 17:41
Work ID: A1774
Date Received: 08/26/93
Date Completed: 08/26/93

Client Code: MCNAMEE

SAMPLE IDENTIFICATION

Sample Number	Sample Description	Sample Number	Sample Description
01	SB1-TW	05	SB-1 19.5-21.5
02	SB-1 24.5-26.5	06	SB-2 14.5-16.5
03	SB-4 19.5-21.5	07	SB-3 24.5-26.5
04	SB-3 29.5-31.5		

SR=See attached report ND=Nondetected, detection limit is in () (=Compound or element was not detected at or above specified detection limit in () N/A=Not applicable *=Average of duplicate runs.

Certified By

K00004379

Sample: 01A SB1-TW Collected:

Test Description	Result	Limit	Units	Analyzed	By
ACENAPHTHENE IN WATER	<10		ug/L	02/15/90	GH
ACENAPHTHYLENE IN WATER	<10		ug/L	02/15/90	GH
ANTHRACENE IN WATER	<10		ug/L	02/15/90	GH
BENZO(a)ANTHRACENE	<10		ug/L	02/15/90	GH
BENZO(a)PYRENE IN WATER	<10		ug/L	02/15/90	GH
BENZO(b)FLUORANTHENE	<10		ug/L	02/15/90	GH
BENZO(ghi)PERYLENE	<10		ug/L	02/15/90	GH
BENZO(k)FLUORANTHENE	<10		ug/L	02/15/90	GH
CHRYSENE IN WATER	<10		ug/L	02/15/90	GH
DIBENZO(a,h)ANTHRACENE	<10		ug/L	02/15/90	GH
FLUORANTHENE IN WATER	<10		ug/L	02/15/90	GH
FLUORENE IN WATER	<10		ug/L	02/15/90	GH
INDENO(1,2,3-cd)PYRENE	<10		ug/L	02/15/90	GH
NAPHTHALENE IN WATER	<10		ug/L	02/15/90	GH
PHENATHRENE IN WATER	<10		ug/L	02/15/90	GH
PYRENE IN WATER	<10		ug/L	02/15/90	GH

Sample: 02A SB-1 24.5-26.5 Collected:

Test Description	Result	Limit	Units	Analyzed	By
ACENAPHTHENE IN SOLID	<0.150		mg/kg	02/15/90	GH
ACENAPHTHYLENE IN SOLID	<0.150		mg/kg	02/15/90	GH
ANTHRACENE IN SOLID	<0.150		mg/kg	02/15/90	GH
BENZO(a)AMTHRACENE	<0.150		mg/kg	02/15/90	GH
BENZO(a)PYRENE IN SOLID	<0.150		mg/kg	02/15/90	GH
BENZO(b)FLUORANTHENE	<0.150		mg/kg	02/15/90	GH
BENZO(ghi)PERYLENE	<0.150		mg/kg	02/15/90	GH
BENZO(k)FLUORANTHENE	<0.150		mg/kg	02/15/90	GH
CHRYSENE IN SOLID	<0.150		mg/kg	02/15/90	GH
DIBENZO(a,h)ANTHRACENE	<0.150		mg/kg	02/15/90	GH
FLUORANTHENE IN SOLID	<0.150		mg/kg	02/15/90	GH
FLUORENE IN SOLID	<0.150		mg/kg	02/15/90	GH
INDENO(1,2,3-cd)PYRENE	<0.150		mg/kg	02/15/90	GH
NAPHTHALENE IN SOLID	<0.150		mg/kg	02/15/90	GH
PHENATHRENE IN SOLID	<0.150		mg/kg	02/15/90	GH
PYRENE IN SOLID	<0.150		mg/kg	02/15/90	GH

Sample: 03A SB-4 19.5-21.5 Collected:

Test Description	Result	Limit	Units	Analyzed	By
ACENAPHTHENE IN SOLID	<0.150		mg/kg	02/15/90	GH
ACENAPHTHYLENE IN SOLID	<0.150		mg/kg	02/15/90	GH
ANTHRACENE IN SOLID	<0.150		mg/kg	02/15/90	GH
BENZO(a)AMTHRACENE	<0.150		mg/kg	02/15/90	GH
BENZO(a)PYRENE IN SOLID	<0.150		mg/kg	02/15/90	GH
BENZO(b)FLUORANTHENE	<0.150		mg/kg	02/15/90	GH
BENZO(ghi)PERYLENE	<0.150		mg/kg	02/15/90	GH
BENZO(k)FLUORANTHENE	<0.150		mg/kg	02/15/90	GH

Test Description	Result	Limit	Units	Analyzed	By
CHRYSENE IN SOLID	<0.150		ug/kg	02/15/90	GH
DIBENZO(a,h)ANTHRACENE	<0.150		ug/kg	02/15/90	GH
FLUORANTHENE IN SOLID	<0.150		ug/kg	02/15/90	GH
FLUORENE IN SOLID	<0.150		ug/kg	02/15/90	GH
INDENO(1,2,3-cd)PYRENE	<0.150		ug/kg	02/15/90	GH
NAPHTHALENE IN SOLID	<0.150		ug/kg	02/15/90	GH
PHENATHRENE IN SOLID	<0.150		ug/kg	02/15/90	GH
PYRENE IN SOLID	<0.150		ug/kg	02/15/90	GH

Sample: 04A SB-3 29.5-31.5 Collected:

Test Description	Result	Limit	Units	Analyzed	By
ACENAPHTHENE IN SOLID	<0.150		ug/kg	02/15/90	GH
ACENAPHTHYLENE IN SOLID	<0.150		ug/kg	02/15/90	GH
ANTHRACENE IN SOLID	<0.150		ug/kg	02/15/90	GH
BENZO(a)AMTHRACENE	<0.150		ug/kg	02/15/90	GH
BENZO(a)PYRENE IN SOLID	<0.150		ug/kg	02/15/90	GH
BENZO(b)FLUORANTHENE	<0.150		ug/kg	02/15/90	GH
BENZO(qhi)PERYLENE	<0.150		ug/kg	02/15/90	GH
BENZO(k)FLUORANTHENE	<0.150		ug/kg	02/15/90	GH
CHRYSENE IN SOLID	<0.150		ug/kg	02/15/90	GH
DIBENZO(a,h)ANTHRACENE	<0.150		ug/kg	02/15/90	GH
FLUORANTHENE IN SOLID	<0.150		ug/kg	02/15/90	GH
FLUORENE IN SOLID	<0.150		ug/kg	02/15/90	GH
INDENO(1,2,3-cd)PYRENE	<0.150		ug/kg	02/15/90	GH
NAPHTHALENE IN SOLID	<0.150		ug/kg	02/15/90	GH
PHENATHRENE IN SOLID	<0.150		ug/kg	02/15/90	GH
PYRENE IN SOLID	<0.150		ug/kg	02/15/90	GH

Sample: 05A SB-1 19.5-21.5 Collected:

Test Description	Result	Limit	Units	Analyzed	By
ACENAPHTHENE IN SOLID	<0.150		ug/kg	02/15/90	GH
ACENAPHTHYLENE IN SOLID	<0.150		ug/kg	02/15/90	GH
ANTHRACENE IN SOLID	<0.150		ug/kg	02/15/90	GH
BENZO(a)AMTHRACENE	<0.150		ug/kg	02/15/90	GH
BENZO(a)PYRENE IN SOLID	<0.150		ug/kg	02/15/90	GH
BENZO(b)FLUORANTHENE	<0.150		ug/kg	02/15/90	GH
BENZO(qhi)PERYLENE	<0.150		ug/kg	02/15/90	GH
BENZO(k)FLUORANTHENE	<0.150		ug/kg	02/15/90	GH
CHRYSENE IN SOLID	<0.150		ug/kg	02/15/90	GH
DIBENZO(a,h)ANTHRACENE	<0.150		ug/kg	02/15/90	GH
FLUORANTHENE IN SOLID	<0.150		ug/kg	02/15/90	GH
FLUORENE IN SOLID	<0.150		ug/kg	02/15/90	GH
INDENO(1,2,3-cd)PYRENE	<0.150		ug/kg	02/15/90	GH
NAPHTHALENE IN SOLID	<0.150		ug/kg	02/15/90	GH
PHENATHRENE IN SOLID	<0.150		ug/kg	02/15/90	GH
PYRENE IN SOLID	<0.150		ug/kg	02/15/90	GH

Sample: 06A SB-2 14.5-16.5 Collected:

Test Description	Result	Limit	Units	Analyzed	By
ACENAPHTHENE IN SOLID	<0.150		ug/kg	02/15/90	GH
ACENAPHTHYLENE IN SOLID	<0.150		ug/kg	02/15/90	GH
ANTHRACENE IN SOLID	<0.150		ug/kg	02/15/90	GH
BENZO(a)AMTHRACENE	<0.150		ug/kg	02/15/90	GH
BENZO(a)PYRENE IN SOLID	<0.150		ug/kg	02/15/90	GH
BENZO(b)FLUORANTHENE	<0.150		ug/kg	02/15/90	GH
BENZO(ghi)PERYLENE	<0.150		ug/kg	02/15/90	GH
BENZO(k)FLUORANTHENE	<0.150		ug/kg	02/15/90	GH
CHRYSENE IN SOLID	<0.150		ug/kg	02/15/90	GH
DIBENZO(a,h)ANTHRACENE	<0.150		ug/kg	02/15/90	GH
FLUORANTHENE IN SOLID	<0.150		ug/kg	02/15/90	GH
FLUORENE IN SOLID	<0.150		ug/kg	02/15/90	GH
INDENO(1,2,3-cd)PYRENE	<0.150		ug/kg	02/15/90	GH
NAPHTHALENE IN SOLID	<0.150		ug/kg	02/15/90	GH
PHENATHRENE IN SOLID	<0.150		ug/kg	02/15/90	GH
PYRENE IN SOLID	<0.150		ug/kg	02/15/90	GH

Sample: 07A SB-3 24.5-26.5 Collected:

Test Description	Result	Limit	Units	Analyzed	By
ACENAPHTHENE IN SOLID	<0.150		ug/kg	02/15/90	GH
ACENAPHTHYLENE IN SOLID	<0.150		ug/kg	02/15/90	GH
ANTHRACENE IN SOLID	<0.150		ug/kg	02/15/90	GH
BENZO(a)AMTHRACENE	<0.150		ug/kg	02/15/90	GH
BENZO(a)PYRENE IN SOLID	<0.150		ug/kg	02/15/90	GH
BENZO(b)FLUORANTHENE	<0.150		ug/kg	02/15/90	GH
BENZO(ghi)PERYLENE	<0.150		ug/kg	02/15/90	GH
BENZO(k)FLUORANTHENE	<0.150		ug/kg	02/15/90	GH
CHRYSENE IN SOLID	<0.150		ug/kg	02/15/90	GH
DIBENZO(a,h)ANTHRACENE	<0.150		ug/kg	02/15/90	GH
FLUORANTHENE IN SOLID	<0.150		ug/kg	02/15/90	GH
FLUORENE IN SOLID	<0.150		ug/kg	02/15/90	GH
INDENO(1,2,3-cd)PYRENE	<0.150		ug/kg	02/15/90	GH
NAPHTHALENE IN SOLID	<0.150		ug/kg	02/15/90	GH
PHENATHRENE IN SOLID	<0.150		ug/kg	02/15/90	GH
PYRENE IN SOLID	<0.150		ug/kg	02/15/90	GH

EXHIBIT 2 C

10-27-93

DNR (MDEQ) CLOSURE CONCURRENCE ~~TEST~~

K00004383

NATURAL RESOURCES
COMMISSION
JERRY C. BARTNIK
LARRY DEVUYST
PAUL EISELE
JAMES P. HILL
DAVID HOLLI
JOEY M. SPANO
JORDAN B. TATTER

STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

ROLAND HARMES, Director

Rec'd 10/28/93

Plainwell District Headquarters
Environmental Response Division
1342 M-89, Suite B, Plainwell, Michigan 49080-1915

October 27, 1993

Mr. Robert Neumann
Consumers Power Company
Environmental and Technical Services Dept.
212 West Michigan Avenue
Jackson, MI 49201

Dear Mr. Neumann:

SUBJECT: Type B Closure for the December 8, 1989 Confirmed Release From a 4000 Gallon Diesel (System #3) Underground Storage Tank (UST) at Consumers Power Kalamazoo Service Center, 2500 East Cork, Kalamazoo County, MERA #390150

The Michigan Department of Natural Resources (MDNR) is in receipt of your submittal requesting concurrence that no further remedial actions are necessary at the above facility with regard to the specified release described below.

According to the work summary, a confirmed release was reported based on analytical results for samples collected at the time of removal of a 4000 gallon diesel UST. Approximately 1000 cubic yards of contaminated soil were removed and properly disposed. Verification samples were collected and analyzed for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), Polynuclear Aromatic Hydrocarbons (PNAs), Polychlorinated Biphenyls (PCBs), Total Petroleum Hydrocarbons (TPH), Lead, Cadmium, and Chromium.

During the investigation to determine the extent of contamination from the diesel UST, an area of soil contamination was discovered in the area of a nearby equipment port. Approximately 1000 cubic yards of impacted soil were removed from this area and properly disposed, and verification samples collected and analyzed for the parameters listed above.

Results of all analyses were nondetect for BTEX, PNAs, PCBs, and TPH. Concentrations of both Lead and Cadmium were below the acceptable Default Type A Cleanup Criteria. Concentrations of Chromium ranged from 3.5-21.8 parts per million (ppm), well below the Type B Criteria of 140 ppm in effect at the time of sampling.

Based on staff review of the summary of work performed, we concur that the response activities undertaken at the Consumers Power Kalamazoo Service Center facility have reduced the contaminants in soil to acceptable Type B cleanup concentrations provided for in Section 10e of the Michigan Environmental Response Act (MERA), 1982 PA 307, as amended, and Administrative Rules.

K00004384

With regard to this facility, this document is not intended to comment on any other known or potential environmental conditions and/or the status of compliance with environmental protection laws and regulations.

In providing this document, the MDNR makes no warranty or guarantee as to the fitness of this facility for any general or specified use. Prospective purchasers or users are advised to use due diligence in acquiring or using this facility. This site will be delisted from the Act 307 list of sites of environmental contamination following remediation of all known areas of environmental contamination.

Details about remedial actions at this location may be found on file at this office. Specific inquiries should be addressed to Debra Clark at the telephone number listed below.

Sincerely,

Linn Duling, District Supervisor
Environmental Response Division
Plainwell District
616-692-2120

LD/DSC:cjf

cc: Senator Paul Wartner
Representative Mary Brown
Mr. Gary Molchan, McNamee Industrial Services
Ms. Connie Cousins-Leatherman, Kalamazoo County Human Services Dept.
Ms. Jenny Hoffmann, MDNR

EXHIBIT 3

OCTOBER 21, 1994

KALAMAZOO SERVICE CENTER
CLOSURE REQUEST - UST SYSTEM #2

K00004386

Consumers Power
POWERING MICHIGAN'S PROGRESS
Environmental & Technical Services Department: 1945 West Parnall Rd, Jackson, MI 49201 • FAX (517) 788-2329

October 24, 1994 7SM905.9.7

Liane J Shekter-Smith
District Supervisor
Underground Storage Tank Division
Plainwell District Office
Michigan Department of Natural Resources
1342 SR-89, Suite B
Plainwell, MI 49080-1915

MERA SITE ID #390151
MUSTFA CLAIM #042691-1250
KALAMAZOO SERVICE CENTER
CLOSURE REQUEST - UST SYSTEM #2

Pursuant to our meeting of August 30, 1994, enclosed is a report entitled "Kalamazoo Service Center - Release Closure Report System #2" as prepared by our site consultant, McNamee Industrial Services, Inc (MIS).

As discussed at our meeting, the report includes photographs which document that there are no visual impacts of the reported total petroleum hydrocarbon (TPH) concentrations in the soil. Further, the report states that there was no olfactory evidence indicating an environmental concern.

Therefore, in accordance with Michigan Compiled Laws annotated, Chapter 299, Subsection 299.838(6), Consumers Power Company is requesting that the Michigan Department of Natural Resources execute a document stating that Type B corrective actions have been completed at the UST System #2 release location.

If there are any additional questions or comments regarding our request for a Type B closure at System #2, please do not hesitate to contact me on 517-788-0350.

Robert G Neumann, PE
UST Compliance Engineer
Environmental and Technical Services Department

CC GMolchan, MIS, Ann Arbor, w/o report

K00004387

01094-61.RGN

Kalamazoo Service Center

Release Closure Report System #2

Kalamazoo Service Center
2500 East Cork Street
Kalamazoo, Michigan

Prepared for:
Consumers Power Company
1945 West Parnell Road
Jackson, Michigan 49201

Prepared by:
McNamee Industrial Services, Inc.
3131 South State Street, Suite 300
Ann Arbor, Michigan 48108

October 1994

K00004388

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DESCRIPTION OF RESPONSE ACTIVITIES	5
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K00004390

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K00004391

INTRODUCTION

As a result of our recent meeting with MDNR officials on August 30, 1994, McNamee Industrial Services, Inc. (MIS), was contracted by Consumers Power Company (CPCo) to complete environmental consulting services at the Kalamazoo Service Center and to provide a release closure report.

Past activities included removal of a 550-gallon waste oil UST and subsequent subsurface investigations. These investigations were performed in response to a confirmed release of a 550-gallon, waste oil, underground storage tank (UST), referred to as System #2. The subject of the investigation was an area west of System #2, beneath the CPCo maintenance garage. This area was possibly impacted by hydrocarbons which were a result of the leaking 550-gallon waste oil UST.

This Release Closure Report is presented to demonstrate that the actions contained herein are consistent with the corrective actions required in Public Act 478, (Leaking Underground Storage Tank Act); Public Act 307, (Michigan Environmental Response Act); and other appropriate guidelines and regulations. Contained in this report are the site history, results of site investigations, and conclusions which recommend closure.

This report has focused on the remaining issue at this site regarding the total petroleum hydrocarbons (TPH) concentrations detected in May of 1991.

K00004392

SITE DESCRIPTION AND HISTORY

Kalamazoo is located in south-central Michigan's Lower Peninsula, approximately 40 miles north of the Indiana border and 50 miles east of Lake Michigan. The Kalamazoo Service Center is located at 2500 East Cork Street, Kalamazoo, Kalamazoo County, Michigan, in the SW 1/4 of Section 25, T.2S, R.11 W, Kalamazoo Quadrangle (Figure 1). A Service Center Site Map is presented as Figure 2. The Service Center occupies approximately 20 acres of land; most of which is covered by a building, asphalt and hard-packed gravel. The surrounding property is commercial and residential and is served by a municipal water and sanitary sewer system.

The Service Center location has been used as a work headquarters for personnel who construct and maintain electric and natural gas transmission and distribution facilities serving commercial, industrial and residential customers in the CPCo Kalamazoo District. The building, which contains office space, storage areas, and a maintenance garage, covers approximately 2.5 acres of the site.

SITE GEOLOGY/HYDROGEOLOGY

The Kalamazoo Service Center site is located in a regionally extensive glacial outwash plain typified by unconsolidated sediments. These sediments are approximately 150 to 200 feet thick. The bedrock formation underlying the glacially derived sediments is the Coldwater Formation, which consists of grey shale with some interbedded limestone, dolomite, siltstone, and sandstone.

Soil boring logs documented in previous investigation reports *(Consumers Power Company Kalamazoo Service Center, Hydrogeologic Investigation Site of Former Diesel Fuel Underground Storage Tank,* August 1990; *Underground Storage Tank Site Investigation Report, 4,000 Gallon Diesel Fuel UST System (System #3), 500 Gallon Used Oil UST System (System #2),* January 1992; *and Site Closure Report Kalamazoo Service Center, 2500 East Cork Street, Kalamazoo, Michigan, 550 Gallon UST System East Used Oil (Tank #2))* indicate the presence of three predominant geologic units beneath the site. The uppermost unit is a silty clay that, when present, ranges from two to twelve feet thick. Underlying the silty clay is a unit consisting of sand and gravel. The sand and gravel are unsaturated, though perched water may be present in some locations. This unit is approximately 15 to 20 feet thick. Beneath the sand and gravel unit is a dense, dry, silt unit with thin interbedded lenses of sand. The silt unit appears to act as a confining layer for vertical movement of groundwater, as evidenced by the perched

groundwater aquifer present above the silt unit's upper surface. The thin interbedded sands within the silt unit are saturated, but are not expected to yield significant quantities of water.

The soil borings completed during June of 1992 (SB101, SB102, SB103, and MW8) did not encounter the uppermost silty clay unit present elsewhere on site. The sand and gravel unit was present from grade level to approximately 13 feet below grade in SB101 through SB103, and from grade level to 16 feet below grade in MW8. Underlying the sand and gravel unit is the dense, dry, silt unit. Geological cross sections indicate that the confining silt unit is dome shaped with a gentle slope to the east and north and a steep slope to the south. The profile of the silt unit to the west is unknown. Perched groundwater is present along the margin of the dome at approximately 17 feet below grade. The upper part of the dome does not have any groundwater present on its surface. Groundwater monitor wells MW06 and MW8 are screened in the perched groundwater aquifer. The groundwater elevation in the wells screened in the sand seams within the silt unit (MW01, MW02, MW03, MW04, MW05, and MW07) is at approximately 25 feet below grade. The groundwater flow direction from the former UST location in the sand and gravel unit is most likely to the south, as indicated by the sharp slope of the dome of the silt unit toward MW06. The groundwater flow direction in the sand seams within the silt unit is toward the northwest.

The locations of selected subsurface geological cross sections are shown on Figure 3, and the cross sections are included as Figures 4 and 5.

NATURE OF THE RELEASE

A hydrocarbon release was discovered during a preliminary soil boring investigation of System #2 performed by CPCo's Environmental & Technical Services Department (ETS) of Jackson, Michigan, in November 1990. The preliminary soil boring investigation took place prior to tank removal. There were no records documenting any types of spilling of the stored oil. Total petroleum hydrocarbons (TPHs) ranging in concentration from 50 mg/kg to 2900 mg/kg were detected in the soil samples from KSB-3 and KSB-4 at depths noted in Table 1, and confirmed a release in the vicinity of System #2. The State Fire Marshal (SFM) was notified of the release on December 21, 1990. Subsequently, the waste oil tank was tagged for non-use and emptied on December 22, 1990, to mitigate any potential fire hazard or further release of oil.

K00004395

DESCRIPTION OF RESPONSE ACTIVITIES

As documented in the "*Site Closure Report, Kalamazoo Service Center, 2500 East Cork Street, Kalamazoo, Michigan, 550 gallon UST East Used Oil-Tank #2*" dated July 1991, the excavation of System #2 occurred in May 1991. To assess the environmental quality of the soil in the area of the UST, closure samples were collected from the sidewalls and floor of the excavation. The soil samples were collected in accordance with MDNR guidance document "Verification of Soil Remediation," October 25, 1990. The soil verification sample locations are indicated on Figure 6. ETS's analytical results for the System #2 excavation indicated concentrations of TPH which exceeded the method detection limit (MDL) in soil samples WW208WO (11,400 mg/kg), FC2101 (10,400 mg/kg), and FC2102 (210 mg/kg). The soil sample with the highest TPH concentration reported was WW208WO, located beneath the footing of CPCo's maintenance garage. The laboratory results are contained in the July 1991 "Site Closure Report." A lack of visibly stained soil, which would warrant further excavation, was evident (See photographs). In addition, CPCo representatives were concerned about the integrity of the building's structural support; therefore, excavation was discontinued and the excavation was backfilled with clean fill sand. The CPCo representatives decided that further investigation beneath the building would be necessary to determine whether the release migrated under the building. Subsequent sampling indicated that TPH did not migrate under the building.

Photographs of the excavation showing the limits of the tank vault and visual justification for those limits are included in Appendix C.

SOIL SAMPLE COLLECTION

On June 6 and 7, 1992, representatives from McNamee Industrial Services, Inc. (MIS), CPCo, and Geo-Tek, Inc., were on site to complete soil borings to determine the extent of the impacted area. Three soil borings were completed inside the maintenance building just west of the exhumed UST. Additional borings were determined to be both impractical due to utility and overhead obstruction constraints. No olfactory signs, staining, or residual products were observed in the soil removed during boring operations or sampling procedures. A decision was made to complete one monitoring well down-gradient from System #2 to act as control point for groundwater sampling, monitoring and flow direction calculations.

The three soil borings were designated as SB101, SB102, and SB103. The monitoring well was designated as MW8. Figure 2 depicts the locations of the soil borings and monitoring wells in the vicinity of System #2. The soil boring and monitoring well logs are presented in Appendix A.

In addition, on May 16, 1994, representatives from MIS were on site to collect a soil sample from beneath the former System #2. This location was selected to identify the vertical impact of TPH. The soil boring and monitoring logs are presented in Appendix A.

The borings were advanced into the unconsolidated material at depths ranging from 15 feet to 34 feet below grade level. Each boring was completed using 4.25-inch inside diameter hollow stem augers.

Soil samples were collected continuously from 1 foot below grade level to the end of the bore hole with a split-spoon sampling device. Each soil sample was collected for lithology description, visual evidence for hydrocarbon staining, and field screening for volatile organic compounds (VOCs). The field screening was completed using a photoionization detector (PID), Micro-tip, manufactured by Photo-Vac, Inc. The soil samples exhibiting the highest PID reading and the soil sample from the bottom of the bore hole were retained for laboratory analysis. Use of these samples determined the horizontal and vertical extent of impacted soil.

The soil samples were collected and delivered to CPCo's ETS Division, Jackson, Michigan.

The soil samples were containerized in clean glass jars, sealed with a Teflon-lined lid, logged on the chain-of-custody, placed in a cooler containing cold packs, and delivered to CPCo's field representative for delivery to the ETS laboratory.

The augers were decontaminated with steam prior to use and between successive bore holes. The split-spoon sampling devices were decontaminated prior to use and between successive sample collections. Soil cuttings were placed in steel drums and stored on site for later disposal.

EFFECTIVENESS OF RESPONSE ACTIVITIES

The Chemistry and Material Service Department of ETS received the soil samples from the Kalamazoo Service Center. The soil and groundwater samples were analyzed for TPH. It was specifically requested that the TPH concentration be determined by gas chromatography-flame ionization detector.

SOIL SAMPLE ANALYTICAL RESULTS

ETS Laboratory's analytical report indicates that TPH, BTEX, PAHs, and PCBs were not present in the soil samples above method detection limits (MDLs). The inorganic soil constituents Pb, Cd, and Cr were present in the soil samples in a wide range of concentrations. Pb was present in the soil samples in concentrations ranging from 3,430 µg/kg to 12,000 µg/kg. Cd was present in the soil samples in concentrations ranging from less than the method detection limit to 288 µg/kg. Cr was present in the soil samples in concentrations ranging from 4,240 µg/kg to 6,230 µg/kg. All detectable concentrations for metals are below the Type A default values. The results of the ETS's analyses are presented in the Kalamazoo Service Center Site Investigation Report System #2, September 24, 1994.

ETS Laboratory's analytical report indicates that BTEX, PAH and PCBs were not present in the groundwater above the Type B criteria. The results of the ETS's analysis are presented in the *Kalamazoo Service Center Site Investigation Report System #2*, September 24, 1994.

EVALUATION OF TOTAL PETROLEUM HYDROCARBONS

The soil impacted by TPH reported in the "*Site Closure Report, Kalamazoo Service Center, 2500 East Cork Street, Kalamazoo, Michigan, 550 gallon UST East Used Oil-Tank #2,*" dated July 1991, is located on the east side of the foundation of the maintenance garage building. The July 1991 Site Closure Report indicates that TPH, ranging in concentration from 12 mg/kg to 11,400 mg/kg, was the only constituent reported above the MDL. All other target compounds were reported below the MDL.

The analytical reports indicated that the concentrations of the target compounds in the soil samples collected from SB101, SB102, SB103, MW-8, and 1287-01 were below the MDL. The groundwater analysis also reported the concentrations of the target compounds as below MDL or MDNR Act 307 Type B cleanup criteria in the down-gradient monitoring well from the former tank location (MW-6). We were unable to obtain a sample from MW-8. In the release closure report dated June 8, 1994, soil sample 1287-01 from a boring at the center of the former System #2 UST collected at 34 feet below the surface indicated 23 mg/kg TPH. This defines the soil limits above the groundwater table and surrounding the excavation.

As the soil verification samples that contained elevated concentrations of TPH were from the same unit, TPH is contained in a limited area in the direct vicinity of the former System #2. This conclusion is supported by the fact that no other indicator parameters (BTEX, PAH, and PCBs) of a hydrocarbon release were detected.

During the removal of System #2, it was noted that a protective wrapping of fiberglass and petroleum-based coating was flaking off the tank. This is clearly evident in Photograph 2, Appendix C. Subsequent excavation removed all visible evidence of the coating, as indicated in Photograph 8, Appendix C.

Currently, there are no formally promulgated regulations or guidelines for TPH cleanup standards. We therefore targeted our data collection to specific compounds associated with the release. This would indicate a more stringent detection protocol. In addition, MIS and CPCo both conclude, using visual olfactory methods, that the final vault excavation limits did not contain any evidence of TPH impact. We have included Photograph 8 to confirm that there is no aesthetic impact.

CONCLUSION

Based upon the facts presented above, we conclude that there is no aesthetic impact due to the levels of TPH. This conclusion is based on the following:

1. No visual or olfactory evidence existed in the System #2 vault as evidenced in Photograph 8.

2. There is no potential of exposure of TPH to humans or natural resource targets, as the levels indicated above the MDL are below the surface and above the water table.

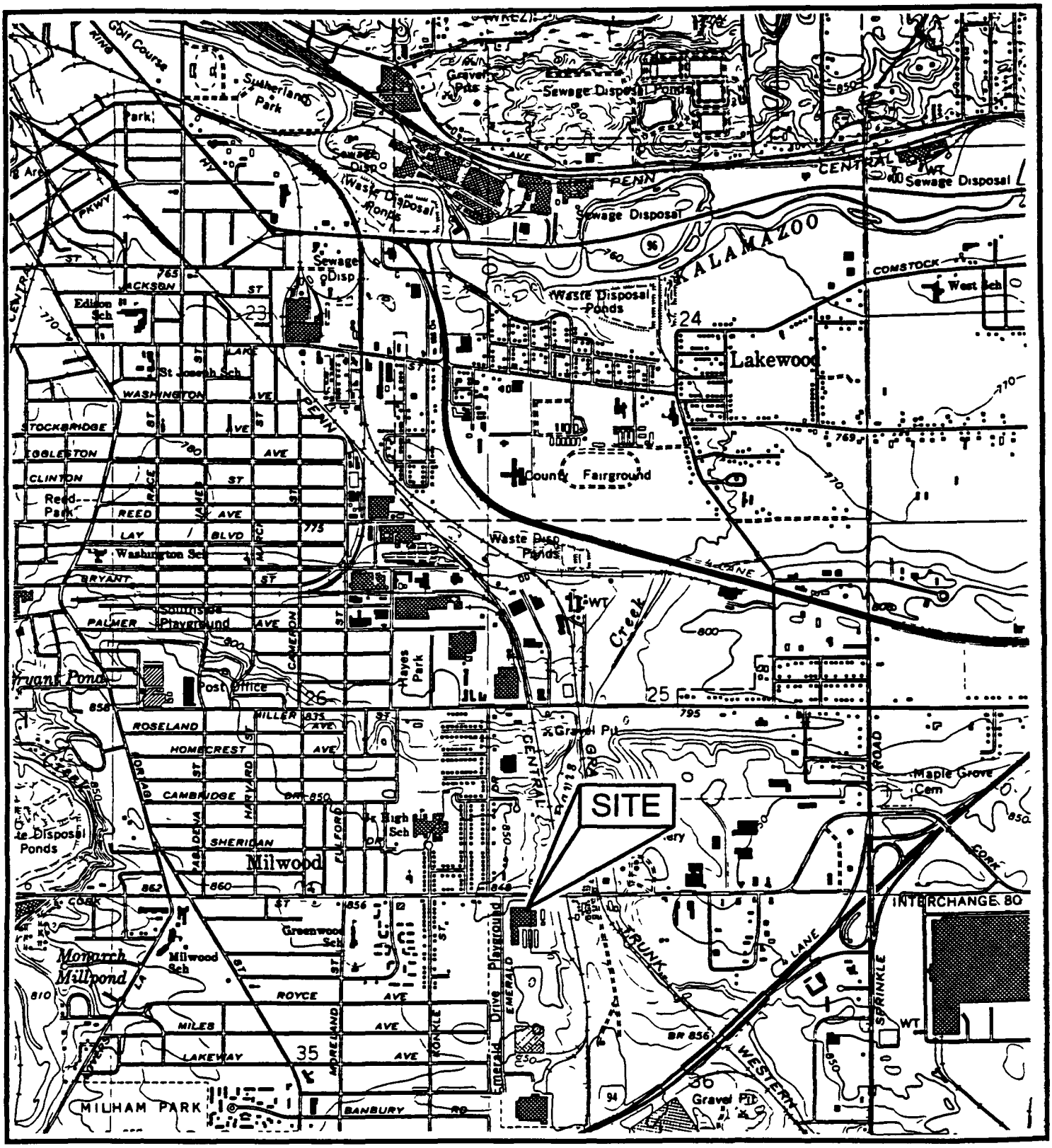
3. Soil is the only medium affected.

4. The site is currently fenced and utilized as a Public Utility.

5. The amount, concentration, mobility persistence and bioaccumulative properties of TPH evaluated in concert with the environmental site conditions indicate that future migration and potential contribution to the food chain is insignificant.

6. TPH is the only indicator above the MDL. No hazardous constituents exist above the Type B closure limits.

For these reasons, as well as the lack of promulgated regulations, we are secure in our recommendations that System #2 be closed.



McNAMEE
INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

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SCALE: 1" = 2000'

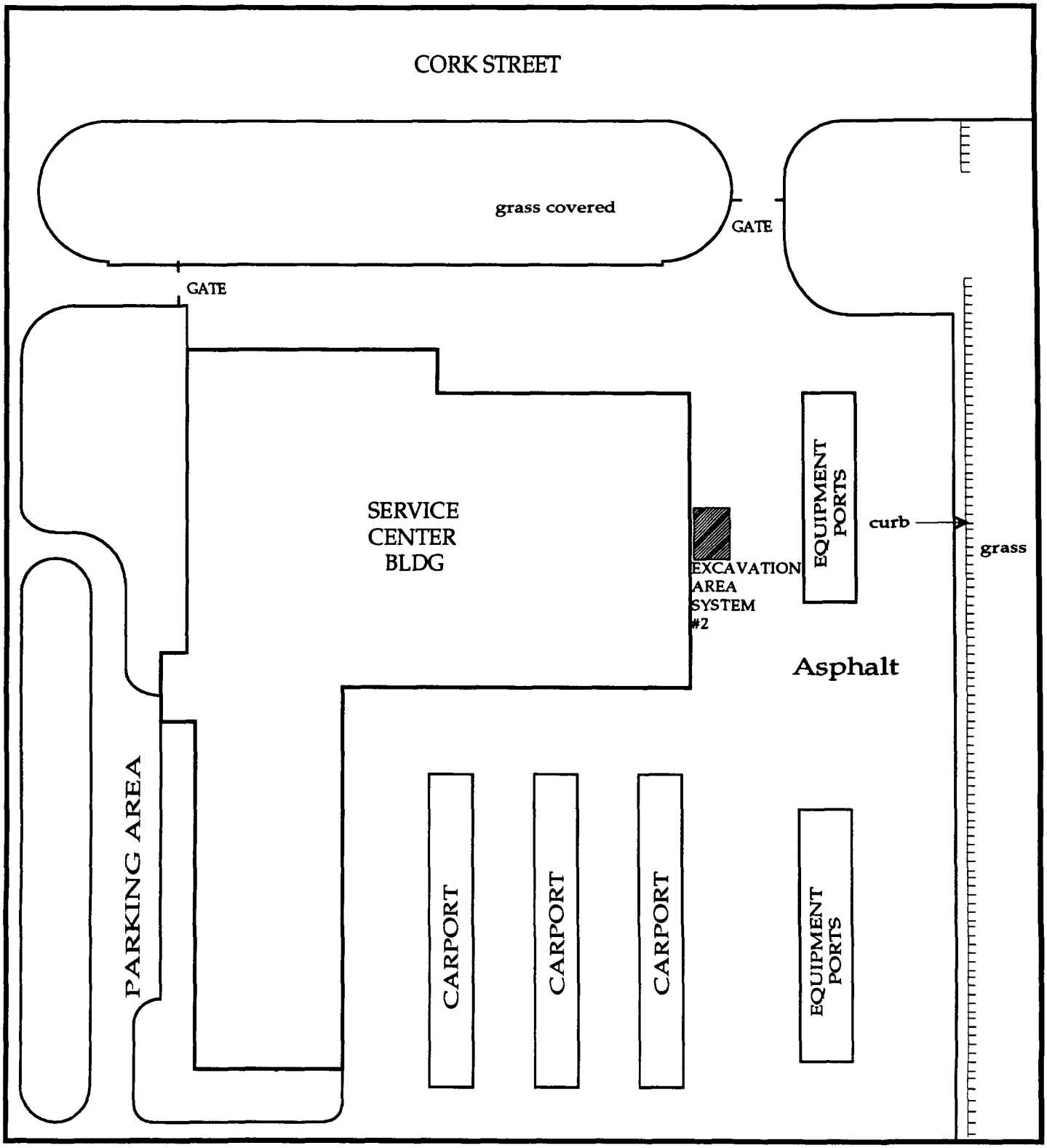
ADAPTED FROM USGS
KALAMAZOO QUADRANGLE

FIGURE 1

KALAMAZOO SERVICE CENTER
SITE LOCATION MAP

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN

K00004402



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LEGEND

EXCAVATION AREA

DOWN SLOPE

APPROXIMATE SCALE 1" = 100'

McNAMEE
INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

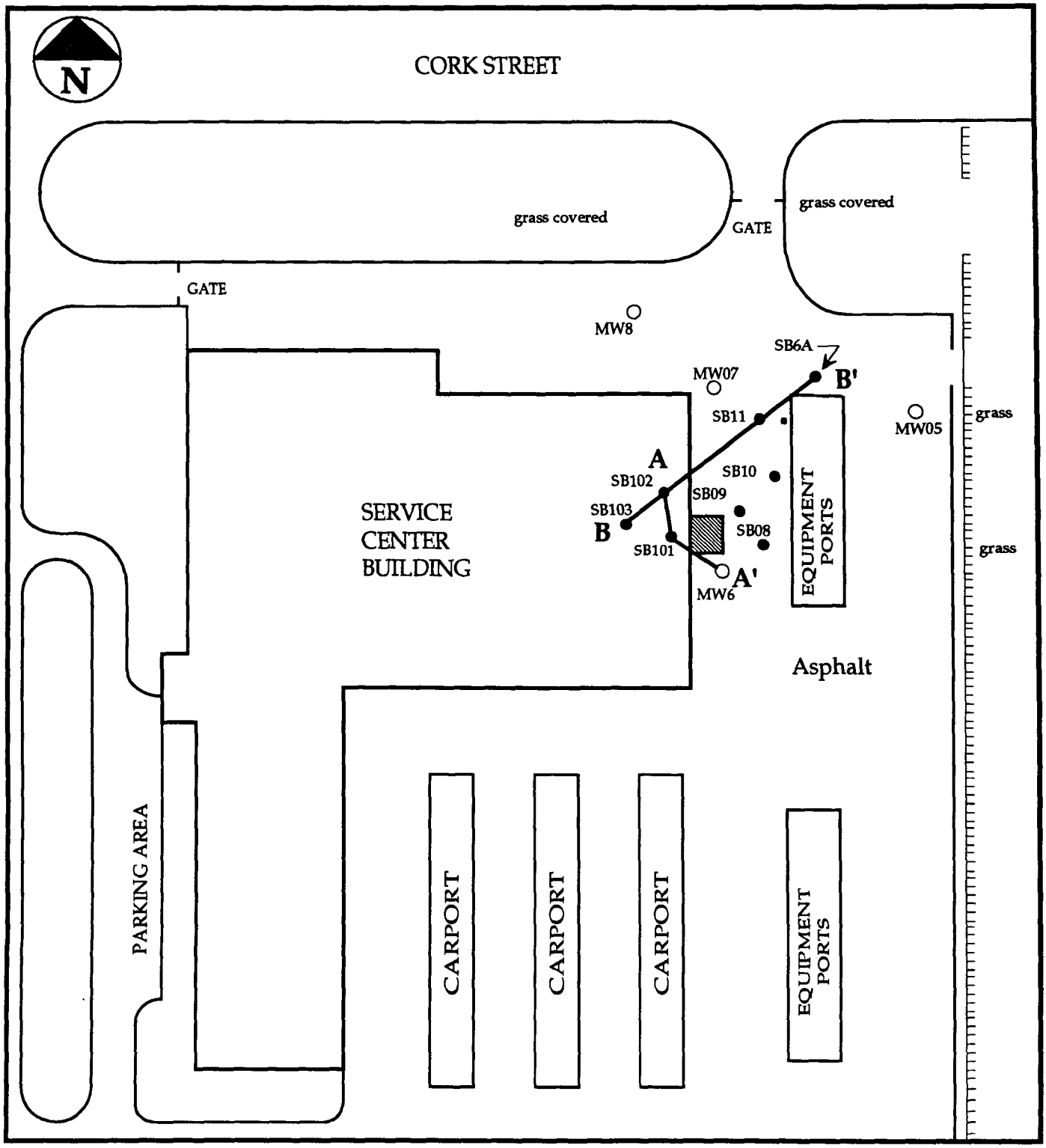
P:\MPS\6120977\KLMZNO2.DRW 10-7-94 WLH

FIGURE 2

KALAMAZOO SERVICE CENTER
SITE MAP

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN

K00004403



LEGEND

APPROXIMATE SCALE 1" = 100'

SB102 ● SOIL BORING

MW8 ○ MONITORING WELL

EXCAVATION BOUNDARY

DOWN SLOPE

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INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

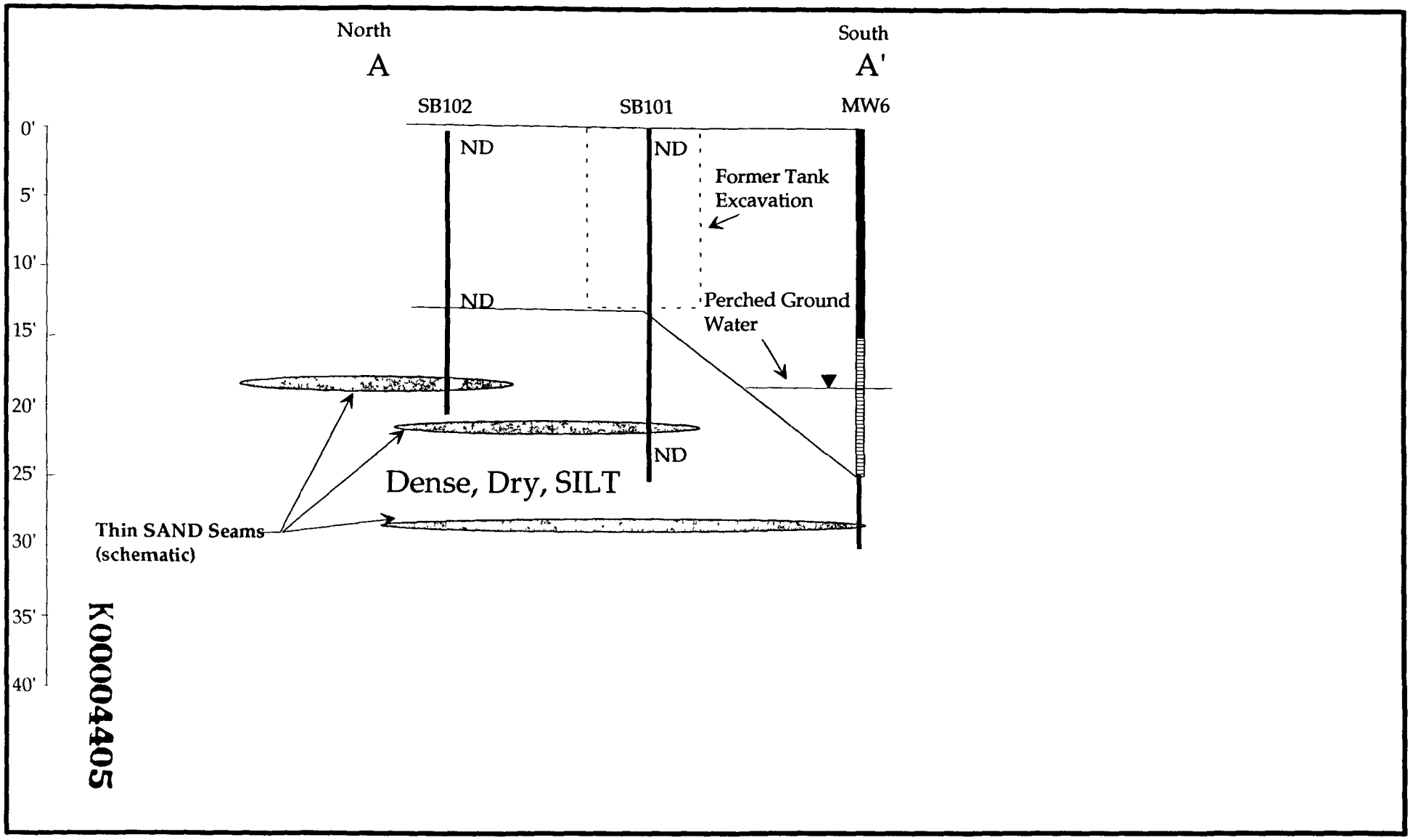
p \mps\6120977\klm2fig2 10-7-94 WLH

FIGURE 3

KALAMAZOO SERVICE CENTER
CROSS SECTION TRANSECT MAP

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN

K00004404



K000004405

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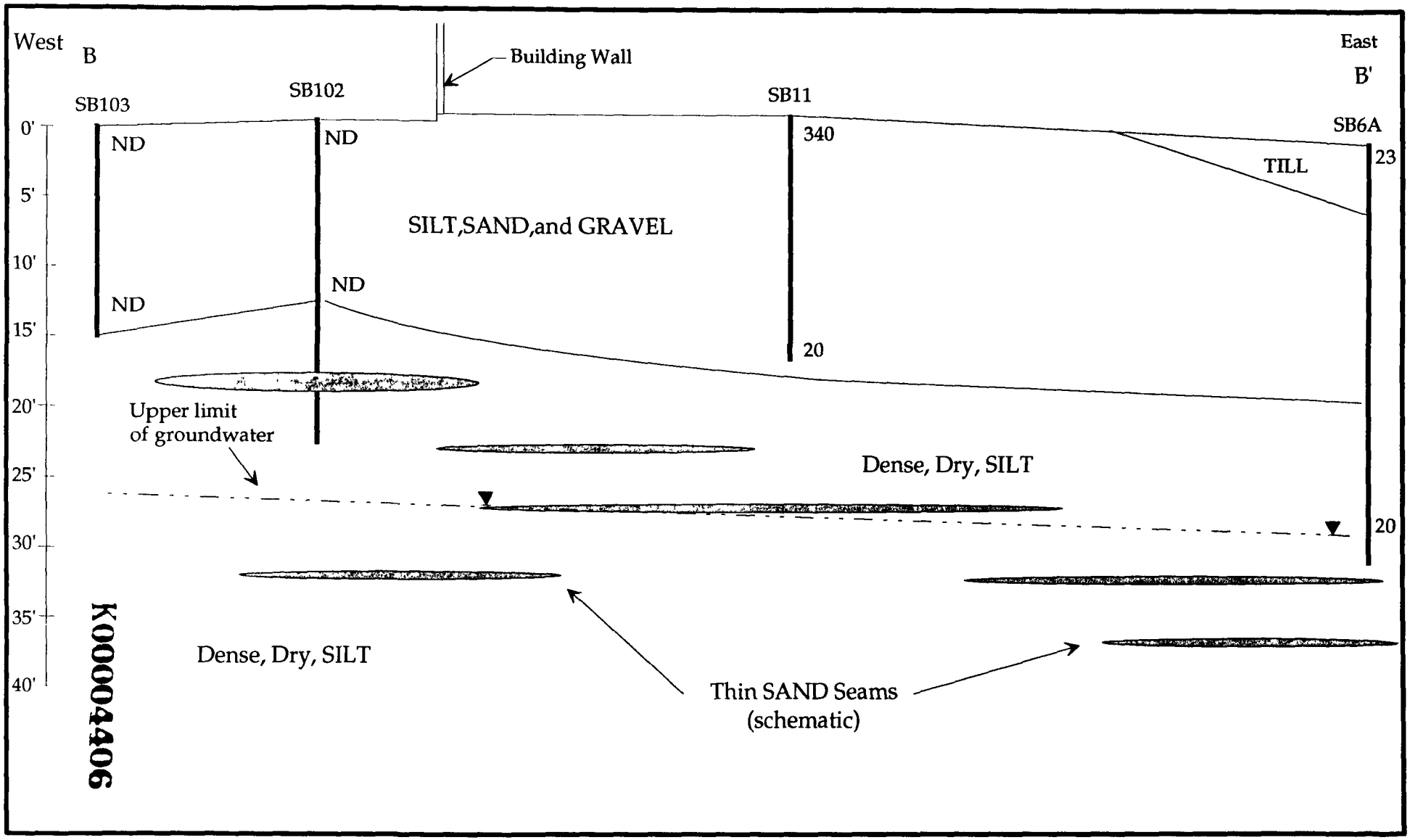
INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

P:\MIS\6120977\KLM2FIG4.DRW 10-7-94 WLH

25 ppm TPH CONCENTRATION
← WELL CASING
WELL SCREEN
▼ GROUND WATER LEVEL

FIGURE 4
KALAMAZOO SERVICE CENTER
CROSS SECTION A-A'

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN



K000004406

McNAMEE
INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

P:\MIS\6120977\KLM2FIG5.DRW 10-17-94 jwc

25 ppm TPH

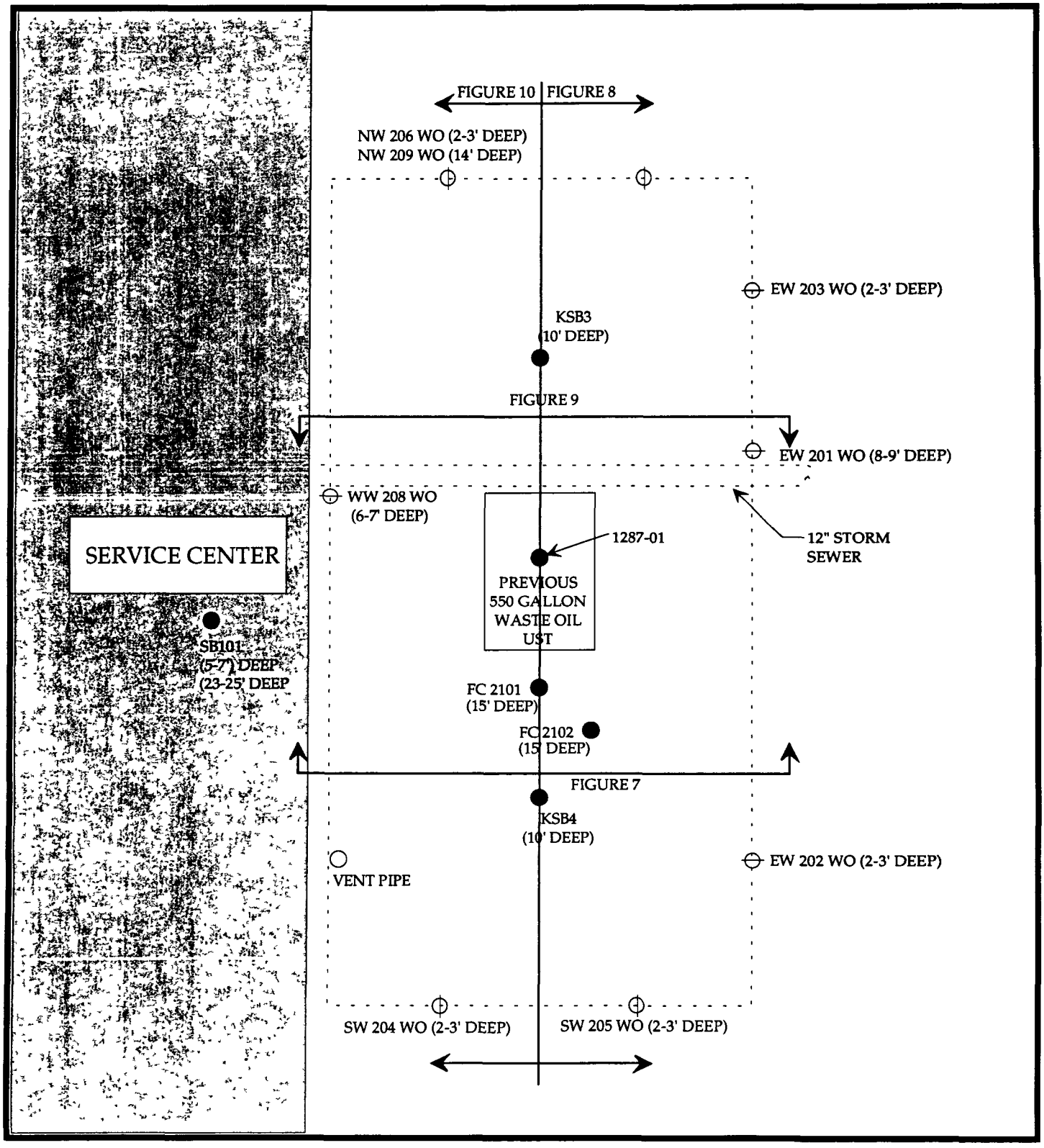
← WELL CASING
WELL SCREEN

▼ GROUND WATER LEVEL

FIGURE 5

KALAMAZOO SERVICE CENTER
CROSS SECTION B-B'

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN



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INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

N

P \MIS\0760820\KLM2FIG6 DRW 10-7 94 WLH

- - - EXCAVATION BOUNDARY
SIDEWALL SAMPLE LOCATION
● BORING SAMPLE LOCATION

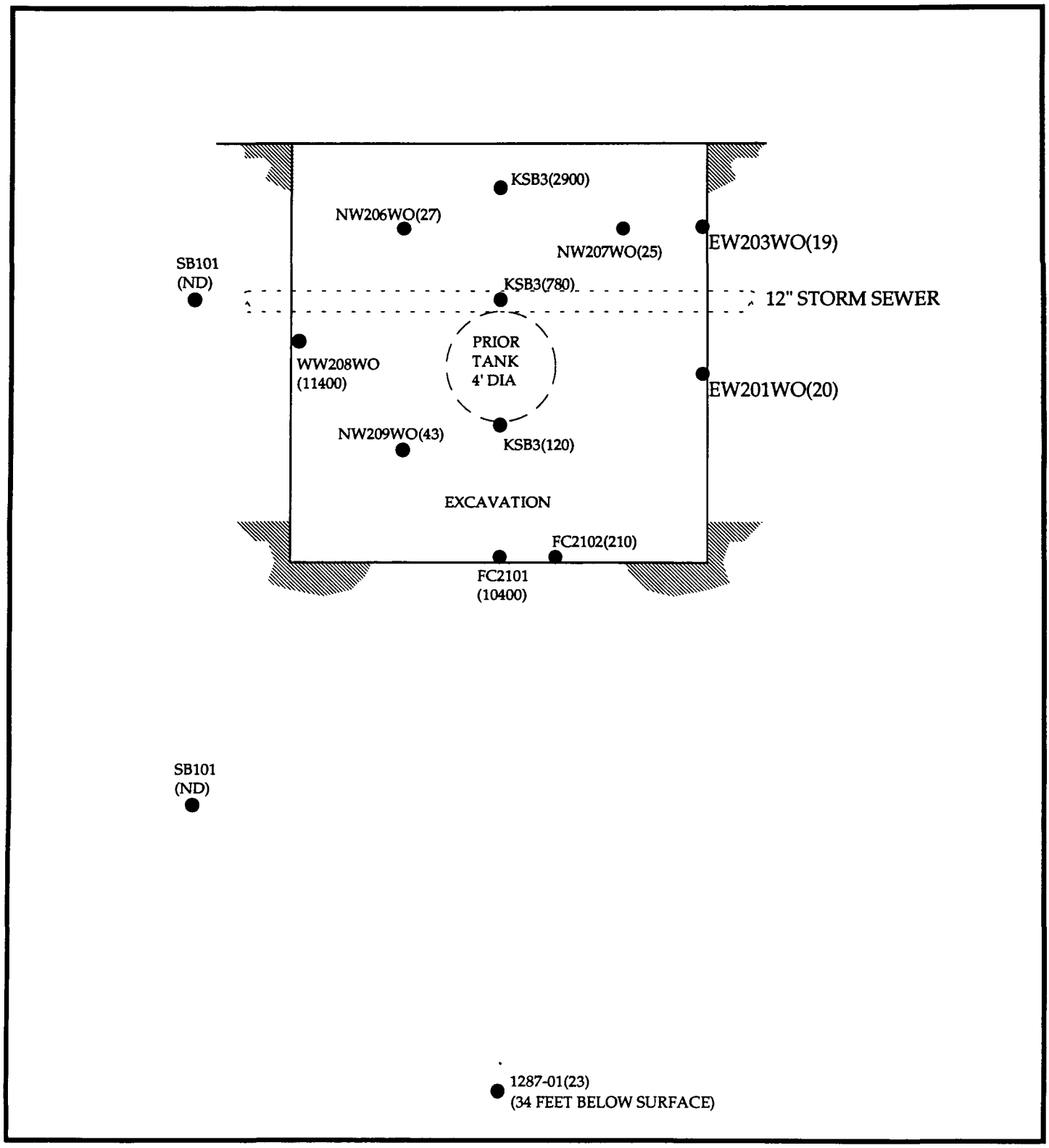
SCALE 1"= 5'

FIGURE 6

KALAMAZOO SERVICE CENTER
SOIL VERIFICATION
SAMPLING LOCATIONS

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN

K00004407



McNAMEE
INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

● NW 206 WO SAMPLE POINT
(25) TPH CONCENTRATION PPM

SCALE:1"=5'-0"

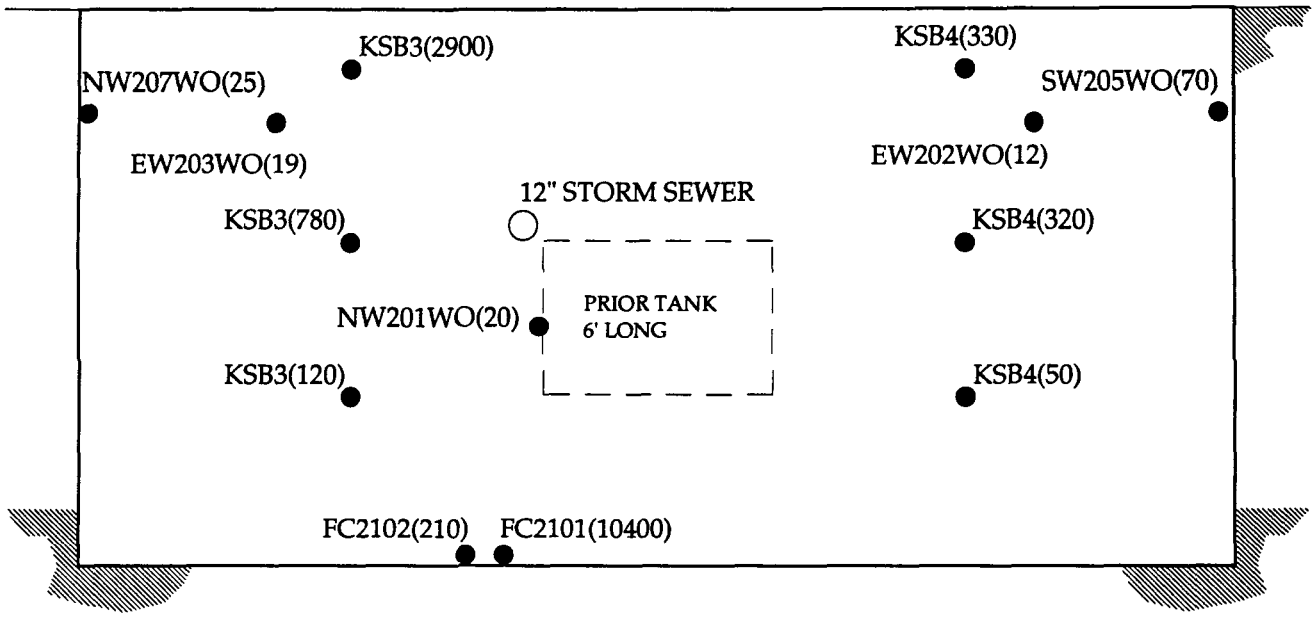
FIGURE 7

KALAMAZOO SERVICE CENTER
NORTH WALL SECTION
SAMPLING LOCATIONS

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN

K00004408

P:\MPS\6120977\KLM2FIG8.DRW 10-17-94 JWC



● 1287-01(23)
(34 FEET BELOW SURFACE)

McNAMEE
INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

● NW 206 WO SAMPLE POINT
(25) TPH CONCENTRATION PPM

SCALE:1"=5'-0"

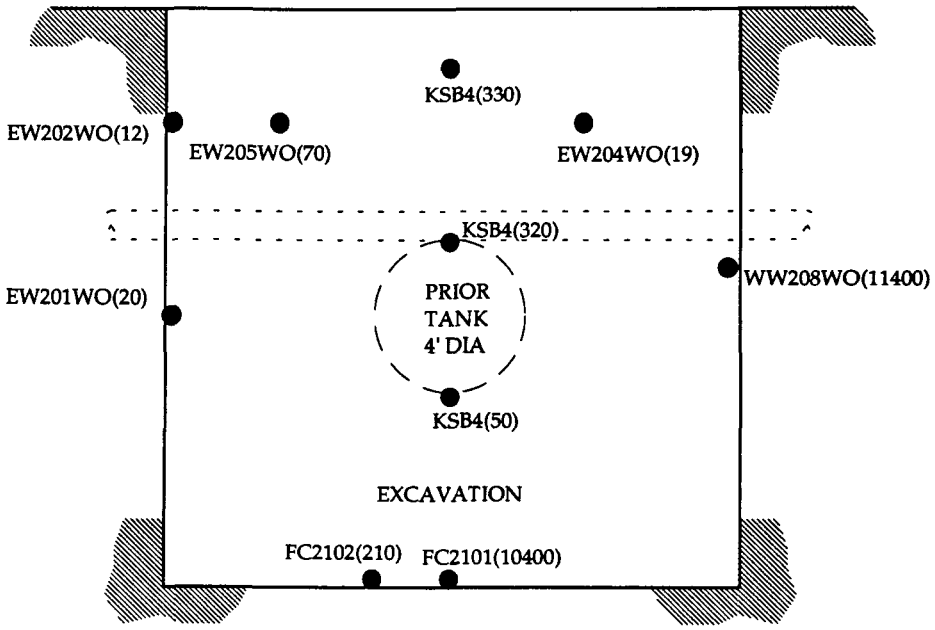
FIGURE 8

KALAMAZOO SERVICE CENTER
EAST WALL SECTION
SAMPLING LOCATIONS

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN

P:\MPS\6120977\KLM2FIG8.DRW 10-10-94 JWC

K00004409



1287-01(23)
(34 FEET BELOW SURFACE)

McNAMEE
INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

NW 206 WO SAMPLE POINT
(25) TPH CONCENTRATION PPM

SCALE:1"=5'-0"

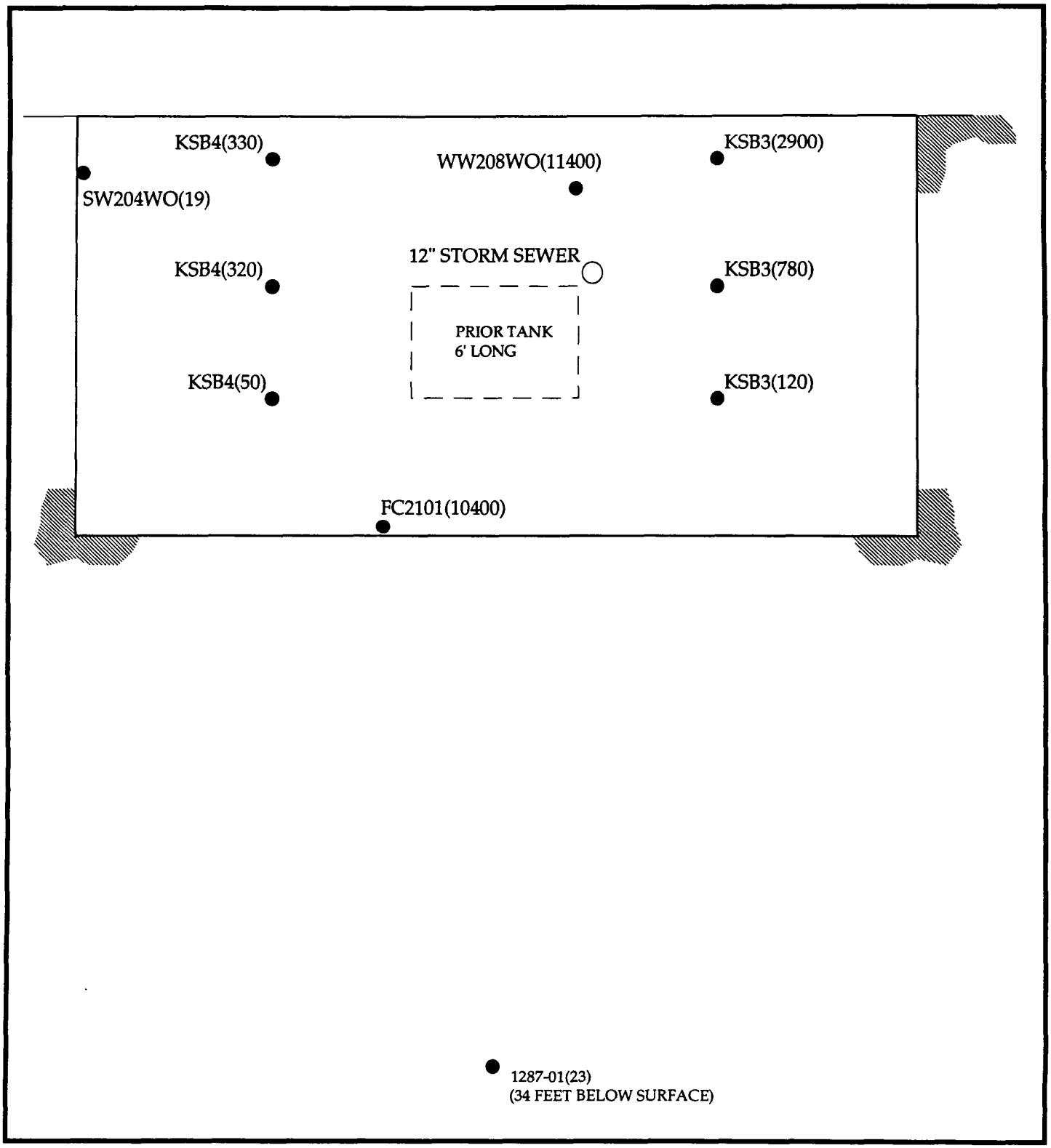
FIGURE 9

KALAMAZOO SERVICE CENTER
SOUTH WALL SECTION
SAMPLING LOCATIONS

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN

P:\MPS\6120977\KLM2FIG10.DRW 10-10-94 JWC

K00004410



McNAMEE
INDUSTRIAL SERVICES
ANN ARBOR, MICHIGAN

● NW 206 WO SAMPLE POINT
(25) TPH CONCENTRATION PPM

SCALE:1"=5'-0"

FIGURE 10

KALAMAZOO SERVICE CENTER
WEST WALL SECTION
SAMPLING LOCATIONS

CONSUMERS POWER COMPANY
KALAMAZOO, MICHIGAN

P:\MPS\6120977\KLM2FIG10.DRW 10-10-94 JWC

K00004411

APPENDIX A

SOIL BORINGS AND MONITORING WELL LOGS

K00004414

McNAMEE INDUSTRIAL SERVICES, INC.

3135 South State Street/Suite 202, Ann Arbor, MI 48108 (313) 665-3999

Boring Log / Well # SB101 1 of 2

SURFACE CASING INTERVAL (IF USED) N/A	LOCATION Kalamazoo Service Center	Client Consumers Pow. Co.	MIS Job # 760820
SURFACE CASING TYPE N/A	DATE 6/6/92	SURFACE ELEVATION	
SURFACE CASING ANNULAR SEAL N/A	LOGGED BY STM	DRILLED BY GeoTek Inc.	
SURFACE CASING: N/A PULLED LEFT IN PLACE	DRILLING METHOD HSA	SAMPLING METHOD S.S.	
	SAND PACK INTERVAL N/A	SEAL INTERVAL N/A	

HOLE ABANDONED WITH: bentonite/cement slurry

CASING INTERVAL N/A — HOLE DIA 6"

SCREEN INTERVAL N/A — TOTAL DEPTH 25'

SAMPLE FOR ANALYSIS	PENETRATION RESISTANCE	DEPTH	SAMPLE RECOVERY	ORGANIC VAPORS (ppm)	LITHOLOGY
		0			
		1			
	10				tan dry c. SAND and GRAVEL, tr silt no odor
	8	2	1/4	12.2	
	6				
	8	3			
	8				tan dry c. SAND and GRAVEL, tr silt no odor
SB10101	26	4	1/4	19	
	20				
	12	5			
	11				tan dry c. SAND and GRAVEL, tr silt no odor
	11	6	3/4	15.6	
	11				
	8	7			
	11				tan dry c. SAND and GRAVEL, tr silt no odor
	8	8	1/2	13	
	12				
	22	9			
	6				brown tan dry m-c SAND, tr gravel no odor
	12	10	1	11.1	
	16				
	12	11			
	22				no recovery
	32	12	0	N/A	
	22				
	12	13			
	7				very dense dry to moist SILT and F SAND, tr c sand, tr gravel
	9	14	1	9	pieces of black charcoal present
	12				
	20	15			
	7				very dense dry to moist SILT and F SAND, tr c sand, tr gravel
	17	16	1	9.8	pieces of black charcoal present
	22				
	32	17			
	12				very dense dry to moist SILT and F SAND, tr c sand, tr gravel
	22	18	1	9.7	pieces of black charcoal present
	30				
	37	19			
	19				extremely dense SILT, some m & c sand
	32	20			5% Charcoal

Notes: PID background 5-10 ppm

K00004415

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McNAMEE INDUSTRIAL SERVICES, INC.

3135 South State Street/Suite 202, Ann Arbor, MI 48108 (313) 665-3999

Boring Log / Well # SB101 2 of 2

SURFACE CASING INTERVAL (IF USED): N/A	LOCATION: Kalamazoo Service Center	Client: Consumers Pow. Co.
		MIS Job #: 760820
SURFACE CASING TYPE: N/A	DATE: 6/6/92	SURFACE ELEVATION:
SURFACE CASING ANNULAR SEAL: N/A	LOGGED BY: STM	DRILLED BY: GeoTek Inc.
SURFACE CASING: N/A (PULLED / LEFT IN PLACE)	DRILLING METHOD: HSA	SAMPLING METHOD: S.S.
	SAND PACK INTERVAL: N/A	SEAL INTERVAL: N/A

HOLE ABANDONED WITH: bentonite/cement slurry

CASING INTERVAL: N/A	HOLE DIA: 6"
SCREEN INTERVAL: N/A	TOTAL DEPTH: 25'

SAMPLE FOR ANALYSIS	PENETRATION RESISTANCE	DEPTH	SAMPLE RECOVERY	ORGANIC VAPORS (ppm)	LITHOLOGY
		continued			
	50		1	8.2	
	50/4"	21			
	30				tan dry extremely dense SILT , some m & c sand
	50	22	1		3% charcoal
	67			13.1	
	64	23			
	25				tan dry extremely dense SILT , some m sand
	42	24	1		
SB10102	47			11.2	
	57	25			
		26			End of Boring
		27			
		28			
		29			
		30			
		31			
		32			
		33			
		34			
		35			
		36			
		37			
		38			
		39			
		40			

K00004416

Notes:

p \mis\0760820\SB101b xls

McNAMEE INDUSTRIAL SERVICES, INC.

3135 South State Street/Suite 202, Ann Arbor, MI 48108 (313) 665-3999

Boring Log / Well #		SB102
SURFACE CASING INTERVAL (IF USED) N/A	LOCATION Kalamazoo Service Center	Client Consumers Pow. Co.
		MIS Job # 760820
SURFACE CASING TYPE N/A	DATE 6/6/92	SURFACE ELEVATION
SURFACE CASING ANNULAR SEAL N/A	LOGGED BY STM	DRILLED BY GeoTek Inc.
SURFACE CASING: N/A	DRILLING METHOD HSA	SAMPLING METHOD S.S.
PULLED LEFT IN PLACE	SAND PACK INTERVAL N/A	SEAL INTERVAL N/A

HOLE ABANDONED WITH: bentonite/cement slurry

CASING INTERVAL N/A — HOLE DIA 6"

SCREEN INTERVAL N/A — TOTAL DEPTH 21'

SAMPLE FOR ANALYSIS	PENETRATION RESISTANCE	DEPTH	SAMPLE RECOVERY	ORGANIC VAPORS (ppm)	LITHOLOGY
		0			
		1			
	6				brown to tan dry dense SILT,M to C SAND, and GRAVEL
	16	2	3/4	9.2	
	9				
	12	3			
	7				
	10	4	1/2	9.3	brown to tan dry dense SILT,M to C SAND, and GRAVEL
	7				
	8	5			
	7				
	10	6	1/2	11.1	brown to tan dry dense SILT,M to C SAND, and GRAVEL
	11				
	15	7			
	10				
	9	8	1/2	9.5	brown to tan dry dense SILT,M to C SAND, and GRAVEL (percentage of fines appears to be increasing)
	8				
	10	9			
	10				
	12	10	1/2	8.8	brown to tan dry dense SILT,M to C SAND, and GRAVEL
	16				
	20	11			
	10				
	9	12	1/2	10	brown to tan dry dense SILT,M to C SAND, and GRAVEL
	12				
	16	13			
	9				
SB10203	15	14	1	11.7	tan dry very dense SILT, some m sand tr gravel
	37				
	50	15			
	20				
	36	16	1	10.5	tan dry very dense SILT, some m sand tr gravel occasional thin (>.5")moist sand lenses
	46				
	45	17			
	20				
	44	18	1	10.5	dense dry m SAND, some silt
	80/12"				
		19			
	20				
SB10204	35	20	1	10	dense dry SILT, some m sand
SB10205	60/12"				
		21			

End of Boring

K00004417

McNAMEE INDUSTRIAL SERVICES, INC.

3135 South State Street / Suite 202 Ann Arbor, MI 48108 (313) 665-3990

Boring Log / Well # SB103

SURFACE CASING INTERVAL (IF USED): N/A	LOCATION: Kalamazoo Service Center	Client: Consumers Pow. Co.
		MIS Job #: 760820
SURFACE CASING TYPE: N/A	DATE: 6/6/92	SURFACE ELEVATION:
SURFACE CASING ANNULAR SEAL: N/A	LOGGED BY: STM	DRILLED BY: GeoTek Inc.
SURFACE CASING: N/A (PULLED / LEFT IN PLACE)	DRILLING METHOD: HSA	SAMPLING METHOD: S.S.
	SAND PACK INTERVAL: N/A	SEAL INTERVAL: N/A

HOLE ABANDONED WITH: bentonite/cement slurry

CASING INTERVAL: N/A — HOLE DIA: 6"

SCREEN INTERVAL: N/A — TOTAL DEPTH: 15'

SAMPLE FOR ANALYSIS	PENETRATION RESISTANCE	DEPTH	SAMPLE RECOVERY	ORGANIC VAPORS (ppm)	LITHOLOGY
		0			
		1			
	10				
	15	2	1/2	8.1	grey dry SILT and GRAVEL
	10				
	12	3			
	10				
	12	4	1/2	7.1	grey and tan SILT, M to C SAND and GRAVEL
	15				
	20	5			
	10				
	13	6	3/4	7.8	grey and tan SILT, M to C SAND and GRAVEL
	20				
	15	7			
	18				
	13	8	1/4	16.6	grey and tan SILT, M to C SAND and GRAVEL
	15				
	9	9			
	17				
SB10306	15	10	1/2	16.7	grey and tan SILT, M to C SAND and GRAVEL
	13				
	17	11			
	32/1"				
		12	1/4	12.9	grey and tan SILT, M to C SAND and GRAVEL
		13			
	4				1' wet f SAND and SILT, tr clay
SB10307	6	14	1	10.8	
	28				1' v dense dry SILT,some c sand and gravel
	32	15			
		16			End of Boring
		17			
		18			
		19			
		20			

K00004418

Notes:

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McNAMEE
ENGINEERING EXCELLENCE
SINCE 1914

LOCATION MAP	CONSUMERS POWER **WELL LOG**	PAGE 1 of 1

WELL NUMBER	SB 0011	LOCATION	CORK ST. KALAMAZOO
DATE	2-26-91	WEATHER	Sunny Mid 20s
LOCATED BY	J Edwards	DRILLED BY	Industrial Waste Management
DRILLING METHOD	4 1/4" Hollow Stem Auger	SAMPLING METHOD	Split Spoon
GRAVEL PACK	NA	SEAL	Bentonite

CASING EVEVATION

CASING TYPE	NA	DIAMETER	NA	LENGTH	NA	HOLE DIAMETER	8"
SCREEN TYPE	NA	SLOT NA	DIAMETER	NA	LENGTH	NA	TOTAL DEPTH 15'

MOISTURE CONTENT	SORTING	SAMPLE FOR ANALYSIS	ORGANIC VAPORS (ppm)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS	WELL COMPLETION
				0			3" Asphalt – 6" Limestone base underlain by brown clay and gravel mix – fill material – sandy gravel.	
				1				
				2				
				3		2	Sand – medium to coarse grained mixec with gravel 1/2" diameter to 1" diameter.	
		*	12.9	4		3		
						3		
				5		6		
				6			Sand, gravel and ocassional cobblestone – subangular to subrounded.	
				7				
				8		4	Sand and gravel – some cobblestone – trace silt and clay – poorly sorted – sub angular to subrounded grains and stone.	
			10.8	9		3		
						3		
				10		4		
				11			Sand, gravel and some cobbles.	
				12				
				13		3	Sand and gravel mixture. Sand is medium to coarse grained. Gravel is 1/2" peasize.	
				14		4		
		*	43.1			15		
				15		15	EOB	
				16				
				17				
				18				
				19				

BACKFILLED with BENTONITE

LEGEND: SAND, BACKFILL, CASING, SCREEN, BENTONITE, CEMENT, WATER LEVEL

K00004419

McNAMEE INDUSTRIAL SERVICES, Inc.
3135 S. State Street, Suite 202
Ann Arbor, Michigan 48108

Project Name : Consumers-Kalamazoo

Project # 076.01.78
Date July 5, 1990
ID # SB-6
Elevation

Soil Type	Soil Description	Depth		Sample Type	Blow Count	Organic Vapor (ppm)
	Till, clay rich, sandy, trace of gravel, moist.					
	Sand, brown, medium to coarse grained, well sorted, slightly silty, slight petroleum odor, dry.	5				
				SS	5	
					4	5.0
					8	
					12	
	Sample exhibits no odor.	10				
				SS	5	
					7	<0.1
					8	
					7	

TYPE OF SAMPLE
SS - Split Spoon
SL - Split Spoon with Liner
ST - Shelby Tube

Groundwater Encountered At : After Completion:

K00004420

APPENDIX B

Analytical Reports

K00004421

To	RGNeumann, H-810	CONSUMERS POWER COMPANY
From	HWVoigt, T-260 HWV	
Date	April 11, 1991	Internal Correspondence
Subject	KALAMAZOO SERVICE CENTER Analytical Results Of McNamee Industrial Services Soil Boring Investigation Of February 26, 1991	
CC	RCWhiting, H-810L JJD'Addona, P-12-123	File Index 519117-561-613

On March 01, 1991 twelve (12) soil boring sample sets and seven (7) monitoring well groundwater sample sets were received by the Chemistry Department of Energy Supply Technical Services (ESTS) from the Kalamazoo Service Center soil boring investigation completed by McNamee Industrial Services.

Samples were received by ESTS for determination of analytical parameters indicated by the chain-of-custody record.

Analytical results are attached for your review.

RECEIVED
APR 12 1991
McNAMEE, PORTER & SEELEY
BY

K00004423

METHOD

Sample Handling - Soil and water sample collection and handling were conducted in accordance with SW-846 recommendations. Samples were iced immediately after sampling and labeling. All samples were returned to the Chemistry Department of ESTS for analysis.

Aromatic Volatile Organics (BTEX) - Method 8021, Volatile Organic Compounds in Water by Purge & Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series. SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition (Proposed Update Package, 1989)

Total Petroleum Hydrocarbons (TPH) - Soil Samples - Method 3550, Sonication Extraction (with pre-treatment of sample with anhydrous magnesium sulfate and solvent extraction with F-113). SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986. EPA Method 418.1, Petroleum Hydrocarbons, Total Recoverable (Infrared Spectrophotometric Method). Methods for Chemical Analysis of Water and Waste, USEPA EPA-600/4-79-020, March 1979

Total Petroleum Hydrocarbons (TPH) - Water Samples - EPA Method 418.1, Petroleum Hydrocarbons, Total Recoverable (Infrared Spectrophotometric Method). Methods for Chemical Analysis of Water and Waste, USEPA EPA-600/4-79-020, March 1979

Polynuclear Aromatic Hydrocarbon (PAH) - Method 8100, Polynuclear Aromatic Hydrocarbons, SW-846 - Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA.

PCB - Method 8080, Organchlorine Pesticides and PCB. SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986.

Soil Sample Total Metals - Method 3050, Acid Digestion Of Sediments, Sludges, and Soil. SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986.

Lead (Pb), Cadmium (Cr), and Chromium (Cr) - Method 7421, Lead (Atomic Absorption, Furnace Technique). Method 7131 Cadmium, (Atomic Absorption, Furnace Technique). Method 7191 Chromium, (Atomic Absorption, Furnace Technique). SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986.

K00004424

LOCATION KALAMAZOO SERVICE CENTER
Project Number 91-0613

Sample ID	SB-6	SB-6	SB-11	SB-11	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	3-5	28-30	3-5	13-15	
Sample Date	02-26-91	02-26-91	02-26-91	02-26-91	
Received Date	03-01-91	03-01-91	03-01-91	03-01-91	
Analysis Date	03-11-91	03-11-91	03-11-91	03-11-91	
Report Date	04-11-91	04-11-91	04-11-91	04-11-91	
PARAMETER					
BTEX, ug/kg					MDL
Benzene	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	10
Total BTEX					sum
PAH, ug/kg					MDL
Naphthalene	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	330
Flourene	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	330
Fluroanthene	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	330
Indeno(123-cd)pyrene	nd	nd	nd	nd	750
Dibenzo(a,h)anthracene	nd	nd	nd	nd	750
Benzo(g,h,i)perylene	nd	nd	nd	nd	750
TPH, mg/kg					MDL
TPH	23	20	340	20	10
PCB, mg/kg					MDL
Total PCB	nd	nd	nd	nd	1
Total Metals, ug/kg					MDL
Lead	1,030	520	7,320	5,030	125
Cadmium	80	100	120	40	5
Chromium	1,960	900	8,320	6,250	50

Notes: nd = parameter not detected at MDL (Method Detection Limit)
MDL = ug/kg (parts-per-billion)
MDL = mg/kg (parts-per-million)

LOCATION KALAMAZOO SERVICE CENTER
Project Number 91-0613

Sample ID	SB-7	SB-7	SB-8	SB-8	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	8-10	28-30	1-3	18-20	
Sample Date	02-27-91	02-27-91	02-26-91	02-26-91	
Received Date	03-01-91	03-01-91	03-01-91	03-01-91	
Analysis Date	03-11-91	03-11-91	03-11-91	03-11-91	
Report Date	04-11-91	04-11-91	04-11-91	04-11-91	
PARAMETER					
BTEX, ug/kg					MDL
Benzene	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	10
Total BTEX					sum
PAH, ug/kg					MDL
Naphthalene	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	330
Flourene	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	330
Fluroanthene	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	330
Indeno(123-cd)pyrene	nd	nd	nd	nd	750
Dibenzo(a,h)anthracene	nd	nd	nd	nd	750
Benzo(g,h,i)perylene	nd	nd	nd	nd	750
TPH, mg/kg					MDL
TPH	14	14	160	10	10
PCB, mg/kg					MDL
Total PCB	nd	nd	nd	nd	1
Total Metals, ug/kg					MDL
Lead	4,400	2,740	10,570	3,850	125
Cadmium	40	30	90	50	5
Chromium	5,400	4,230	13,600	5,380	50

Notes: nd = parameter not detected at MDL (Method Detection Limit)
MDL = ug/kg (parts-per-billion)
MDL = mg/kg (parts-per-million)

K00004426

LOCATION KALAMAZOO SERVICE CENTER
Project Number 91-0613

Sample ID	SB-9	SB-9	SB-10	SB-10	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	3-5	13-15	3-5	13-15	
Sample Date	02-27-91	02-27-91	02-26-91	02-26-91	
Received Da e	03-01-91	03-01-91	03-01-91	03-01-91	
Analysis Date	03-11-91	03-11-91	03-11-91	03-11-91	
Report Date	04-11-91	04-11-91	04-11-91	04-11-91	
PARAMETER					
BTEX, ug/kg					MDL
Benzene	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	10
Total BTEX					sum
PAH, ug/kg					MDL
Naphthalene	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	330
Flourene	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	330
Fluroanthene	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	330
Indeno(123-cd)pyrene	nd	nd	nd	nd	750
Dibenzo(a,h)anthracene	nd	nd	nd	nd	750
Benzo(g,h,i)perylene	nd	nd	nd	nd	750
TPH, mg/kg					MDL
TPH	10	10	45	10	10
PCB, mg/kg					MDL
Total PCB	nd	nd	nd	nd	1
Total Metals, ug/kg					MDL
Lead	4,330	4,230	7,050	4,440	125
Cadmium	120	70	60	40	5
Chromium	6,300	6,920	13,100	3,520	50

Notes: nd = parameter not detected at MDL (Method Detection Limit)
MDL = ug/kg (parts-per-billion)
MDL = mg/kg (parts-per-million)

K00004427

To	RGNeumann, H-810	CONSUMERS POWER COMPANY
From	HWVoigt, T-260 HWV	
Date	May 20, 1991	Internal Correspondence
Subject	KALAMAZOO SERVICE CENTER UST Excavation Closure Samples Analytical Results Waste Oil UST #2	
CC	RJWhiting, H-810L JJD'Addona, P-12-123	File Index 519117=561-805

The Chemistry Department of Energy Supply Technical Services (ESTS) received the following samples from the Kalamazoo Service Center UST excavation for Waste Oil UST #2.

May 09, 1991 11 each excavation soil samples

Samples were received by ESTS for determination of BTEX, TPH, PAH, PCB, and Total Lead, Cadmium, and Chromium. Analytical results are attached for your review.

K00004428

METHOD

Sample Handling - Soil and water sample collection and handling were conducted in accordance with SW-846 recommendations. Samples were iced immediately after sampling and labeling. All samples were returned to the Chemistry Department of ESTS for analysis.

Aromatic Volatile Organics (BTEX) - Method 8021, Volatile Organic Compounds in Water by Purge & Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series. SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition (Proposed Update Package, 1989)

Total Petroleum Hydrocarbons (TPH) - Soil Samples - Method 3550, Sonication Extraction (with pre-treatment of sample with anhydrous magnesium sulfate and solvent extraction with F-113). SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986. EPA Method 418.1, Petroleum Hydrocarbons, Total Recoverable (Infrared Spectrophotometric Method). Methods for Chemical Analysis of Water and Waste, USEPA EPA-600/4-79-020, March 1979

Polynuclear Aromatic Hydrocarbon (PAH) - Method 8100, Polynuclear Aromatic Hydrocarbons, SW-846 - Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA.

PCB - Method 8080, Organchlorine Pesticides and PCB. SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986.

Soil Sample Total Metals - Method 3050, Acid Digestion Of Sediments, Sludges, and Soil. SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986.

Lead (Pb), Cadmium (Cr), and Chromium (Cr) - Method 7421, Lead (Atomic Absorption, Furnace Technique). Method 7131 Cadmium, (Atomic Absorption, Furnace Technique). Method 7191 Chromium, (Atomic Absorption, Furnace Technique). SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986.

K00004429

TABLE 1. ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #2
Project Number	91-0805

Sample ID	EW201WO	EW202WO	EW203WO	SW204WO	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	-	-	-	-	
Sample Date	05-08-91	05-08-91	05-08-91	05-08-91	
Received Date	05-09-91	05-09-91	05-09-91	05-09-91	
Analysis Date	05-17-91	05-17-91	05-17-91	05-17-91	
Report Date	05-20-91	05-20-91	05-20-91	05-20-91	
PARAMETER					
BTEX, ug/kg					MDL
Benzene	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	10
Total BTEX					
PAH, ug/kg					MDL
Naphthalene	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	750
Dibenzo(a,h)anthracene	nd	nd	nd	nd	750
Benzo(ghi)perylene	nd	nd	nd	nd	750
TPH, mg/kg					MDL
TPH	20.	12.	19.	19.	10
PCB, mg/kg					MDL
PCB	nd	nd	nd	nd	1
Total Metals, ug/kg					MDL
Lead	1,300.	13,200.	3,930.	6,080.	125
Cadmium	19.	43.	58.	77.	5
Chromium	5,370.	14,700.	7,280.	11,400.	50

Notes: nd = parameter not detected at MDL (Method Detection Limit)
MDL = ug/kg (parts-per-billion)
MDL = mg/kg (parts-per-million)

K00004430

TABLE 2. ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #2
Project Number	91-0805

Sample ID	SW205WO	NW206WO	NW207WO	NW208WO	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	-	-	-	-	
Sample Date	05-08-91	05-08-91	05-08-91	05-08-91	
Received Date	05-09-91	05-09-91	05-09-91	05-09-91	
Analysis Date	05-17-91	05-17-91	05-17-91	05-17-91	
Report Date	05-20-91	05-20-91	05-20-91	05-20-91	
PARAMETER					
BTEX, ug/kg					MDL
Benzene	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	nd	10
o-Xylene	nd	nd	nd	nd	10
Total BTEX					
PAH, ug/kg					MDL
Naphthalene	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	750
Dibenzo(a,h)anthracene	nd	nd	nd	nd	750
Benzo(ghi)perylene	nd	nd	nd	nd	750
TPH, mg/kg					MDL
TPH	70.	27.	25.	11,400.	10
PCB, mg/kg					MDL
PCB	nd	nd	nd	1.	1
Total Metals, ug/kg					MDL
Lead	6,750.	4,050.	6,280.	6,850.	125
Cadmium	70.	28.	94.	220.	5
Chromium	16,900.	11,000.	11,060.	6,220.	50

Notes: nd = parameter not detected at MDL (Method Detection Limit)
MDL = ug/kg (parts-per-billion)
MDL = mg/kg (parts-per-million)

K00004431

TABLE 3. ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #2
Project Number	91-0805

Sample ID	NW209WO	FC2101	FC2102	
Sample Type	soil	soil	soil	
Sample Depth (ft)	-	-	-	
Sample Date	05-08-91	05-08-91	05-08-91	
Received Date	05-09-91	05-09-91	05-09-91	
Analysis Date	05-17-91	05-17-91	05-17-91	
Report Date	05-20-91	05-20-91	05-20-91	
PARAMETER				
BTEX, ug/kg				MDL
Benzene	nd	nd	nd	10
Toluene	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	10
m/p-Xylene	nd	nd	nd	10
o-Xylene	nd	nd	nd	10
Total BTEX				
PAH, ug/kg				MDL
Naphthalene	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	330
Acenaphthene	nd	nd	nd	330
Fluorene	nd	nd	nd	330
Phenanthrene	nd	nd	nd	330
Anthracene	nd	nd	nd	330
Fluoranthene	nd	nd	nd	330
Pyrene	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	330
Chrysene	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	750
Dibenzo(a,h)anthracene	nd	nd	nd	750
Benzo(ghi)perylene	nd	nd	nd	750
TPH, mg/kg				MDL
TPH	43.	10,400.	210.	10
PCB, mg/kg				MDL
PCB	nd	nd	nd	1
Total Metals, ug/kg				MDL
Lead	1,130.	20,700.	3,810.	125
Cadmium	32.	170.	49.	5
Chromium	3,170.	4,860.	10,460.	50

Notes: nd = parameter not detected at MDL (Method Detection Limit)
MDL = ug/kg (parts-per-billion)
MDL = mg/kg (parts-per-million)

K00004432

71-805

CHAIN OF CUSTODY RECORD

McNAMEE ENGINEERING EXCELLENCE

MAY 09 1991

CHEMICAL DIVISION

PROJ. NO.: UST WO#2

PROJECT NAME: KALAMAZOO - Cork ST.

SAMPLERS: (Signature) Joseph D Edwards

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TPH, PNA, PCB, Cd, Cr, Pb, BTEX							REMARKS
UST WO#2	91													
	5.8	1205		X	EW201WO	2	X	X	X					BTEX Method 8020
		1208			EW202WO	2	X	X	X					Pb Method 7427
		1240			EW203WO	2	X	X	X					PNA " 8250 or 8270
		1215			SW204WO	2	X	X	X					Cd " 7131
		1220			SW205WO	2	X	X	X					Cr Method 7191
		1242			NW206WO	2	X	X	X					PCB Method 8080
		1245			NW207WO	2	X	X	X					TPH 418.1 (?)
		1143			NW208WO W.W208WO	2	X	X	X					
		1126			FC2101	2	X	X	X					
		1137			FC2102	2	X	X	X					Provide QA/QC
UST WO#2	5.8	1414		X	NW209WO	2	X	X	X					

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Joseph D Edwards	5.8.91 1600	CPCo Mail		5/9/91 0935	[signature]
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

COMMENTS: K00004433

To: JDL

To	RGNeumann, H-810	CONSUMERS POWER COMPANY
From	HWVoigt, T-260 HWV	
Date	May 24, 1991	Internal Correspondence
Subject	KALAMAZOO SERVICE CENTER UST Excavation Closure Samples Analytical Results Waste Oil UST #2	
CC	RJWhiting, H-810L JJD'Addona, P-12-123	File Index 519117=561-805 Addendum

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The Chemistry Department of Energy Supply Technical Services (ESTS) received the following samples from the Kalamazoo Service Center UST excavation for Waste Oil UST #2.

May 09, 1991 11 each excavation soil samples

Samples were received by ESTS for determination of Purgeable Halocarbons (601 Scan).

Analytical results are attached for your review.

K00004434

METHOD

Sample Handling - Soil and water sample collection and handling were conducted in accordance with SW-846 recommendations. Samples were iced immediately after sampling and labeling. All samples were returned to the Chemistry Department of ESTS for analysis.

Purgeable Halocarbons (601 Scan) - Method 8021, Volatile Organic Compounds in Water by Purge & Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series. SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition (Proposed Update Package, 1989)

K00004435

TABLE 1. ANALYTICAL RESULTS

LOCATION KALAMAZOO SERVICE CENTER
UST ID Waste Oil #2
Project Number 91-0805

Sample ID	EW2001WO	EW202WO	EW203WO	SW204WO	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	-	-	-	-	
Sample Date	05-08-91	05-08-91	05-08-91	05-08-91	
Received Date	05-09-91	05-09-91	05-09-91	05-09-91	
Analysis Date	05-17-91	05-17-91	05-17-91	05-17-91	
Report Date	05-24-91	05-24-91	05-24-91	05-24-91	
PARAMETER					
601 Scan, ug/kg					MDL
Bromodichloromethane	nd	nd	nd	nd	20
Bromoform	nd	nd	nd	nd	20
Bromomethane	nd	nd	nd	nd	40
Carbon Tetrachloride	nd	nd	nd	nd	10
Chlorobenzene	nd	nd	nd	nd	10
Chloroethane	nd	nd	nd	nd	20
Chloroform	nd	nd	nd	nd	10
Chloromethane	nd	nd	nd	nd	40
Dibromochloromethane	nd	nd	nd	nd	20
1,1-Dichloroethane	nd	nd	nd	nd	10
1,2-Dichloroethane	nd	nd	nd	nd	10
1,1-Dichloroethene	nd	nd	nd	nd	10
cis-1,2-Dichloroethene	nd	nd	nd	nd	10
trans-1,2-Dichloroethene	nd	nd	nd	nd	10
1,2-Dichloropropane	nd	nd	nd	nd	10
cis-1,3-Dichloropropene	nd	nd	nd	nd	10
trans-1,3-Dichloropropene	nd	nd	nd	nd	10
Methylene Chloride	nd	nd	nd	nd	50
1,1,2,2-Tetrachloroethane	nd	nd	nd	nd	10
Tetrachloroethene	nd	nd	nd	nd	10
1,1,1-Trichloroethane	nd	nd	nd	nd	10
1,1,2-Trichloroethane	nd	nd	nd	nd	10
Trichloroethene	nd	nd	nd	nd	10
Trichlorofluoromethane	nd	nd	nd	nd	20
Vinyl Chloride	nd	nd	nd	nd	100

Note: MDL = Method Detection Limit, ug/L (parts-per-billion)
nd = Parameter Not Detected At MDL

K00004436

TABLE 2. ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #2
Project Number	91-0805

Sample ID	ESW205WO	NW206WO	NW207WO	NW208WO	
Sample Type	soil	soil	soil	soil	
Sample Depth (ft)	-	-	-	-	
Sample Date	05-08-91	05-08-91	05-08-91	05-08-91	
Received Date	05-09-91	05-09-91	05-09-91	05-09-91	
Analysis Date	05-17-91	05-17-91	05-17-91	05-17-91	
Report Date	05-24-91	05-24-91	05-24-91	05-24-91	
PARAMETER					
601 Scan, ug/kg					MDL
Bromodichloromethane	nd	nd	nd	nd	20
Bromoform	nd	nd	nd	nd	20
Bromomethane	nd	nd	nd	nd	40
Carbon Tetrachloride	nd	nd	nd	nd	10
Chlorobenzene	nd	nd	nd	nd	10
Chloroethane	nd	nd	nd	nd	20
Chloroform	nd	nd	nd	nd	10
Chloromethane	nd	nd	nd	nd	40
Dibromochloromethane	nd	nd	nd	nd	20
1,1-Dichloroethane	nd	nd	nd	nd	10
1,2-Dichloroethane	nd	nd	nd	nd	10
1,1-Dichloroethene	nd	nd	nd	nd	10
cis-1,2-Dichloroethene	nd	nd	nd	nd	10
trans-1,2-Dichloroethene	nd	nd	nd	nd	10
1,2-Dichloropropane	nd	nd	nd	nd	10
cis-1,3-Dichloropropene	nd	nd	nd	nd	10
trans-1,3-Dichloropropene	nd	nd	nd	nd	10
Methylene Chloride	nd	nd	nd	nd	50
1,1,2,2-Tetrachloroethane	nd	nd	nd	nd	10
Tetrachloroethene	nd	nd	nd	nd	10
1,1,1-Trichloroethane	nd	nd	nd	nd	10
1,1,2-Trichloroethane	nd	nd	nd	nd	10
Trichloroethene	nd	nd	nd	nd	10
Trichlorofluoromethane	nd	nd	nd	nd	20
Vinyl Chloride	nd	nd	nd	nd	100

Note: MDL = Method Detection Limit, ug/L (parts-per-billion)
nd = Parameter Not Detected At MDL

K00004437

TABLE 3. ANALYTICAL RESULTS

LOCATION	KALAMAZOO SERVICE CENTER
UST ID	Waste Oil #2
Project Number	91-0805

Sample ID	NW209WO	FC2101	FC2102		
Sample Type	soil	soil	soil		
Sample Depth (ft)	-	-	-		
Sample Date	05-08-91	05-08-91	05-08-91		
Received Date	05-09-91	05-09-91	05-09-91		
Analysis Date	05-17-91	05-17-91	05-17-91		
Report Date	05-24-91	05-24-91	05-24-91		
PARAMETER					
601 Scan, ug/kg					MDL
Bromodichloromethane	nd	nd	nd	nd	20
Bromoform	nd	nd	nd	nd	20
Bromomethane	nd	nd	nd	nd	40
Carbon Tetrachloride	nd	nd	nd	nd	10
Chlorobenzene	nd	nd	nd	nd	10
Chloroethane	nd	nd	nd	nd	20
Chloroform	nd	nd	nd	nd	10
Chloromethane	nd	nd	nd	nd	40
Dibromochloromethane	nd	nd	nd	nd	20
1,1-Dichloroethane	nd	nd	nd	nd	10
1,2-Dichloroethane	nd	nd	nd	nd	10
1,1-Dichloroethene	nd	nd	nd	nd	10
cis-1,2-Dichloroethene	nd	nd	nd	nd	10
trans-1,2-Dichloroethene	nd	nd	nd	nd	10
1,2-Dichloropropane	nd	nd	nd	nd	10
cis-1,3-Dichloropropene	nd	nd	nd	nd	10
trans-1,3-Dichloropropene	nd	nd	nd	nd	10
Methylene Chloride	nd	nd	nd	nd	50
1,1,2,2-Tetrachloroethane	nd	nd	nd	nd	10
Tetrachloroethene	nd	nd	nd	nd	10
1,1,1-Trichloroethane	nd	nd	nd	nd	10
1,1,2-Trichloroethane	nd	nd	nd	nd	10
Trichloroethene	nd	nd	nd	nd	10
Trichlorofluoromethane	nd	nd	nd	nd	20
Vinyl Chloride	nd	nd	nd	nd	100

Note: MDL = Method Detection Limit, ug/L (parts-per-billion)
nd = Parameter Not Detected At MDL

K00004438

To	AMAurino, Lansing Annex	RECEIVED JUN 29 1992 McNAMEE INDUSTRIAL SERVICES, INC. BY _____	CONSUMERS POWER COMPANY
From	HWVoigt, T-260, Jackson		
Date	June 24, 1992		
Subject	KALAMAZOO SERVICE CENTER SOIL BORING INVESTIGATION		Internal Correspondence
CC	RGNeumann, P-12-123		File Index: 519217-561-946

On June 8, 1992 the Chemistry and Material Service Department of Environmental and Technical Services (E&TS) received 9 soil samples from the Kalamazoo Service Center.

All samples were analyzed for Polynuclear Aromatic Hydrocarbons (PAH), Aromatic Volatile Organics (BTEX), Polychlorinated Biphenyls (PCB), Total Petroleum Hydrocarbons (TPH) and Total Lead, Cadmium and Chromium.

As specifically requested, TPH was determined by gas chromatography-flame ionization detector.

Results of the investigation are attached for your review.

K00004439

0692-139-CHEM02-NAB

File Index: 519217-561-946
Kalamazoo Service Center

ANALYTICAL METHODS

Sample Handling - Soil sample collection and handling was conducted in accordance with SW-846 recommendations. Soil samples were iced immediately after sampling and labeling. All samples were returned to the Chemistry and Material Service Department of E&TS for analysis.

Polynuclear Aromatic Hydrocarbon (PAH) - Method 8310, Polynuclear Aromatic Hydrocarbons By High Performance Liquid Chromatography. SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA.

Aromatic Volatile Organics (BTEX) - Method 8020A, Aromatic Volatile Organics By Gas Chromatography. SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA.

PCB - Method 8080, Organchlorine Pesticides and PCB (PCB only). SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA.

TPH Distribution - State of California, Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup and Underground Storage Tank Closure. Method ASTM D-2887, Standard Method For Boiling Range Distribution Of Petroleum Fractions By Gas Chromatography.

Soil Sample Total Lead, Cadmium, Chromium - Method 3050, Acid Digestion Of Sediments, Sludges, and Soil. **Lead** - Method 7421, Lead (Atomic Absorption, Furnace Technique). **Cadmium** - Method 7131 Cadmium, (Atomic Absorption, Furnace Technique). **Chromium** - Method 7191 Chromium, (Atomic Absorption, Furnace Technique). SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA, 3rd Edition, September 1986.

File Index: 519217-561-946
Kalamazoo Service Center

ATTACHMENT A
ANALYTICAL RESULTS

K00004441

0692-139-CHEM02-NAB

CONSUMERS POWER COMPANY
Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER • Soil Boring Excavation • McNamee				Project Number CHEM-92-0946	
Sample Identification	SB 101 01	SB 101 02	SB 102 03	SB 102 04	SB 102 05	
Sample Depth (ft)	3-5'	23-25'	-	-	-	
Sample Type	Soil	Soil	Soil	Soil	Soil	
Sample Date	06-06-92	06-06-92	06-06-92	06-06-92	06-06-92	
Received Date	06-08-92	06-08-92	06-08-92	06-08-92	06-08-92	
Analysis Date	06-09-92	06-09-92	06-09-92	06-09-92	06-09-92	
Report Date	06-23-92	06-23-92	06-23-92	06-23-92	06-23-92	
Control Number	920946-01	920946-02	920946-03	920946-04	920946-05	
BTEX, ug/kg - Method 8020						MDL
Benzene	nd	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	nd	10
Xylenes	nd	nd	nd	nd	nd	10
Surrogate Recovery 4-Bromofluorobenzene	% Recovery 99	% Recovery 100	% Recovery 103	% Recovery 104	% Recovery 100	
PAH, ug/kg - Method 8310						MDL
Naphthalene	nd	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	nd	330
Dibenzo(a,h)anthracene	nd	nd	nd	nd	nd	330
Benzo(g,h,i)perylene	nd	nd	nd	nd	nd	330

NOTES: MDL = Method Detection Limit, ug/kg (parts-per-billion)
nd = Parameter Not Detected at MDL

Reviewed by LCWJ Date 06-25-92 Data File 920946

K00004442

CONSUMERS POWER COMPANY
Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER • Soil Boring Excavation • McNamee				Project Number CHEM-92-0946	
Sample Identification	SB 101 01	SB 101 02	SB 102 03	SB 102 04	SB 102 05	
Sample Depth (ft)	3-5'	23-25'	-	-	-	
Sample Type	Soil	Soil	Soil	Soil	Soil	
Sample Date	06-06-92	06-06-92	06-06-92	06-06-92	06-06-92	
Received Date	06-08-92	06-08-92	06-08-92	06-08-92	06-08-92	
Analysis Date	06-09-92	06-09-92	06-09-92	06-09-92	06-09-92	
Report Date	06-23-92	06-23-92	06-23-92	06-23-92	06-23-92	
Control Number	920946-01	920946-02	920946-03	920946-04	920946-05	
PCB, ug/kg - Method 8080						MDL
Total PCB	nd	nd	nd	nd	nd	33
TPH DISTRIBUTION, mg/kg						MDL
Gasoline Range	nd	nd	nd	nd	nd	2
Fuel Oil Range	nd	nd	nd	nd	nd	5
Lube Oil Range	nd	nd	nd	nd	nd	10
TOTAL METALS, ug/kg						MDL
Cadmium	235	288	59	87	66	50
Chromium	6,230	6,230	7,330	7,710	7,060	200
Lead	12,000	4,310	3,910	3,850	4,240	1,000

NOTES:
MDL = Method Detection Limit, ug/kg (parts-per-billion)
MDL = Method Detection Limit, mg/kg (parts-per-million)
nd = Parameter Not Detected at MDL

Reviewed by RCW Date 06-25-92 Data File 920946

CONSUMERS POWER COMPANY
Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER • Soil Boring Excavation • McNamee				Project Number CHEM-92-0946	
Sample Identification	SB 103 06	SB 103 07	MW 808	MW 809		
Sample Depth (ft)	9-11'	13-15'	6-8'	8-10'		
Sample Type	Soil	Soil	Soil	Soil		
Sample Date	06-06-92	06-06-92	06-07-92	06-07-92		
Received Date	06-08-92	06-08-92	06-08-92	06-08-92		
Analysis Date	06-09-92	06-09-92	06-09-92	06-09-92		
Report Date	06-23-92	06-23-92	06-23-92	06-23-92		
Control Number	920946-06	920946-07	920946-08	920946-09		
BTEX, ug/kg - Method 8020						MDL
Benzene	nd	nd	nd	nd	nd	10
Toluene	nd	nd	nd	nd	nd	10
Ethylbenzene	nd	nd	nd	nd	nd	10
Xylenes	nd	nd	nd	nd	nd	10
Surrogate Recovery -Bromofluorobenzene	% Recovery 101	% Recovery 103	% Recovery 100	% Recovery 95	% Recovery	
PAH, ug/kg - Method 8310						MDL
Naphthalene	nd	nd	nd	nd	nd	330
Acenaphthylene	nd	nd	nd	nd	nd	330
Acenaphthene	nd	nd	nd	nd	nd	330
Fluorene	nd	nd	nd	nd	nd	330
Phenanthrene	nd	nd	nd	nd	nd	330
Anthracene	nd	nd	nd	nd	nd	330
Fluoranthene	nd	nd	nd	nd	nd	330
Pyrene	nd	nd	nd	nd	nd	330
Benzo(a)anthracene	nd	nd	nd	nd	nd	330
Chrysene	nd	nd	nd	nd	nd	330
Benzo(b)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(k)fluoranthene	nd	nd	nd	nd	nd	330
Benzo(a)pyrene	nd	nd	nd	nd	nd	330
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd	nd	330
Dibenzo(a,h)anthracene	nd	nd	nd	nd	nd	330
Benzo(g,h,i)perylene	nd	nd	nd	nd	nd	330

NOTES: MDL = Method Detection Limit, ug/kg (parts-per-billion)
nd = Parameter Not Detected at MDL

Reviewed by HCWU Date 06-25-92 Data File 920946

K00004444

CONSUMERS POWER COMPANY
Environmental & Technical Services Department

)CATION	KALAMAZOO SERVICE CENTER • Soil Boring Excavation • McNamee				Project Number CHEM-92-0946	
Sample Identification	SB 103 06	SB 103 07	MW 808	MW 809		
Sample Depth (ft)	9-11'	13-15'	6-8'	8-10'		
Sample Type	Soil	Soil	Soil	Soil		
Sample Date	06-06-92	06-06-92	06-07-92	06-07-92		
Received Date	06-08-92	06-08-92	06-08-92	06-08-92		
Analysis Date	06-09-92	06-09-92	06-09-92	06-09-92		
Report Date	06-23-92	06-23-92	06-23-92	06-23-92		
Control Number	920946-06	920946-07	920946-08	920946-09		
PCB, ug/kg - Method 8080						MDL
Total PCB	nd	nd	nd	nd	nd	33
TPH DISTRIBUTION, mg/kg						MDL
Gasoline Range	nd	nd	nd	nd	nd	2
Fuel Oil Range	nd	nd	nd	nd	nd	5
Lube Oil Range	nd	nd	nd	nd	nd	10
)TAL METALS, ug/kg						MDL
Cadmium	68	nd	nd	nd		50
Chromium	4,860	4,340	4,900	4,310		200
Lead	4,370	2,890	3,430	3,830		1,000

NOTES:
MDL = Method Detection Limit, ug/kg (parts-per-billion)
MDL = Method Detection Limit, mg/kg (parts-per-million)
nd = Parameter Not Detected at MDL

..eviewed by [signature] Date 06-25-92 | Data File 920946

File Index: 519217-561-946
Kalamazoo Service Center

ATTACHMENT B
CHAIN-OF-CUSTODY RECORDS

K00004446

0692-139-CHEM02-NAB

McNAMEE
ENGINEERING EXCELLENCE SINCE 1914

CHAIN-OF-CUSTODY RECORD

№ 393

McNamee Advanced Technology, Inc., 3135 S. State Street, Suite 301, Ann Arbor, MI 48108

CLIENT	ADDRESS
LPL Kalamazoo Serv. Cent	Cork St. Kalamazoo

PROJECT NO.	PROJECT NAME	PHONE NO.

CLIENT CONTACT	SAMPLER
T Aurno	S. McWhinnie

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): BTEX, TPH, PAH, PCB, Pb, Cr, Cd

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	BTEX	TPH							REMARKS
1	SB10101	6/8			✓	Soil	2	X	X							
2	SB10102	6/6														
3	SB10203	6/6														
4	SB10204	6/6														
5	SB10205	6/6														
6	SB10306	6/6														
7	SB10307	6/6														
8	MW808	6/7														
9	MW809	6/7														
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1	[signature]	[signature]	6/7/92	
2	1-1		[signature] via Pony	6/8/8	1100
3					
4		K00004447			

REMARKS
USE G.C. method for TPH analysis
(Suspect charcoal carbon component)
CHARGE TO FUNCTION
#-1614-108.502.3

SAMPLER'S SIGNATURE [signature]

To	AMAurino, Lansing-Annex	CONSUMERS POWER COMPANY
From	HWVoigt, T-260	
Date	August 04, 1992	Internal Correspondence
Subject	KALAMAZOO SERVICE CENTER - Monitoring Well Groundwater Samples - McNamee Investigation Of 07-23-92	
CC	RGNeumann, P12-123	File Index No. 529217-561-271
CC	Joe Edwards McNamee Advanced Technology, Inc. 3135 S State Street Suite 301 Ann Arbor, MI 48108	

On July 23, 1992 the Chemistry and Material Services Department (C&MS) of Environmental and Technical Services received one groundwater sample collected at the Kalamazoo Service Center - site investigation.

The sample was analyzed for Aromatic Volatile Organics (BTEX), Polynuclear Aromatic Hydrocarbons (PAH), Polychlorinated Biphenyls (PCB), Total Petroleum Hydrocarbons (TPH), TPH Distribution and Dissolved Lead, Cadmium and Chromium.

Analytical results are attached for your review.

RECEIVED
AUG 07 1992
McNAMEE ADVANCED TECHNOLOGY, INC.
BY _____

ATTACHMENT A

ANALYTICAL RESULTS

ANALYTICAL METHODS

Sample Handling - Sample collection and handling was conducted in accordance with SW-846 recommendations. Samples were iced immediately after sampling and labeling. All samples were returned to the Chemistry and Material Services Department for analysis.

Aromatic Volatile Organics (BTEX) - Method 8021, Volatile Organic Compounds in Water by Purge & Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series. SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition (Proposed Update Package, 1989)

Polynuclear Aromatic Hydrocarbon (PAH) - Method 8270, Gas Chromatography / Mass Spectrometry For Semivolatile Orgaincs: Capillary Column Technique. SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition (Proposed Update Package, 1989)

PCB - Method 8080, Organchlorine Pesticides and PCB (PCB Only). SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition, September 1986.

TPH Distribution - State Of California, Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup and Underground Storage Tank Closure. Method ASTM D-2887, Standard Method For Boiling Range Distribution Of Petroleum Fractions By Gas Chromatography.

Total Petroleum Hydrocarbons (TPH) - Water Samples - EPA Method 418.1, Petroleum Hydrocarbons, Total Recoverable (Infrared Spectrophotometric Method). Methods for Chemical Analysis of Water and Waste, USEPA EPA-600/4-79-020, March 1979 3550,

Dissolved Metals - Lead, Cadmium, Chromium - Method 7421, Lead (Atomic Absorption, Furnace Technique). Method 7131 Cadmium, (Atomic Absorption, Furnace Technique). Method 7191 Chromium, (Atomic Absorption, Furnace Technique). SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA, 3rd Edition, September 1986.

K00004450

TABLE A1. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - Monitoring Well Sample - McNamee #076.08.20					Project Number CHEM-92-1271
Sample Identification	MW-06	Blank				
Sample Depth (ft)	-	-				
Sample Type	water	water				
Sample Date	07-23-92	07-23-92				
Received Date	07-23-92	07-23-92				
Analysis Date	07-29-92	07-29-92				
Report Date	08-03-92	08-03-92				
Control Number	921271-01	921271-02				
BTEX, ug/L - Method 8021						MDL
Benzene	nd	nd				1
Toluene	nd	nd				1
Ethylbenzene	nd	nd				1
m/p-Xylene	nd	nd				1
o-Xylene	nd	nd				1
Surrogate Recovery	% Recovery	% Recovery				
4-Bromofluorobenzene	98	102				
PAH, ug/L - Method 8270						MDL
Naphthalene	nd					5
Acenaphthylene	nd					5
Acenaphthene	nd					5
Fluorene	nd					5
Phenanthrene	nd					5
Anthracene	nd					5
Fluoranthene	nd					5
Pyrene	nd					5
Benzo(a)anthracene	nd					5
Chrysene	nd					5
Benzo(b)fluoranthene	nd					5
Benzo(k)fluoranthene	nd					5
Benzo(a)pyrene	nd					5
Indeno(1,2,3-cd)pyrene	nd					5
Dibenzo(a,h)anthracene	nd					5
Benzo(g,h,i)perylene	nd					5
Surrogate Recovery	% Recovery					
Terphenyl-d14	98					

NOTES: MDL = Method Detection Limit, ug/L (parts-per-billion)
nd = Parameter Not Detected At MDL

Reviewed By [illegible] Date 080492 Data File 921271

K00004451

TABLE A2. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - Monitoring Well Sample - McNamee #076.08.20					Project Number CHEM-92-1271
Sample Identification	MW-06					
Sample Depth (ft)	-					
Sample Type	water					
Sample Date	07-23-92					
Received Date	07-23-92					
Analysis Date	07-29-92					
Report Date	08-03-92					
Control Number	921271-01					
TPH DISTRIBUTION, mg/L						MDL
Gasoline Range	nd					0.2
Fuel Oil Range	nd					0.2
Lube Oil Range	nd					1.0
TPH, mg/L - Method 418.1						MDL
TPH	0.2					0.2
DISSOLVED METALS, ug/L						MDL
Cadmium - 7131	2.1					0.2
Chromium - 7191	50.0					50.0
Lead - 7421	nd					3.0
PCB, ug/L - Method 8080						MDL
PCB-1016	nd					0.1
PCB-1221	nd					0.1
PCB-1232	nd					0.1
PCB-1242	nd					0.1
PCB-1248	nd					0.1
PCB-1254	nd					0.1
PCB-1260	nd					0.1

NOTES:
MDL = Method Detection Limit, ug/L (parts-per-billion)
MDL = Method Detection Limit, mg/L (parts-per-million)
nd = Parameter Not Detected At MDL

Reviewed By [illegible] Date 080992 Data File 921271

K00004452

To HGHeyer, Grand Rapids

From HWVoigt, T-260

Date May 31, 1994

Subject KALAMAZOO SERVICE CENTER
- MIS Project # Kalamazoo

CC RGNeumann, P-22-520

CC G Molchen
McNamee, Porter & Seeley
3131 South State Street
Ann Arbor, MI 48108

CONSUMERS POWER COMPANY

Internal Correspondence

File Index No.
529417-561-287A

On May 19, 1994 the Chemistry and Material Services Department (C&MS) of Environmental and Technical Services received for one soil sample collected at the KALAMAZOO SERVICE CENTER. Sample collection was completed by McNamee, Porter & Seeley (MIS).

The sample was returned to C&MS for the determination of Total Petroleum Hydrocarbons (TPH) and Diesel Range Organics (DRO).

Analytical results are attached for your review.

ANALYTICAL METHODS

Sample Handling - Sample collection and handling was conducted in accordance with SW-846 recommendations. All samples were returned to the Chemistry and Material Services Department (C&MS) for analysis.

Total Petroleum Hydrocarbons (TPH) - Soil Samples - Method 3550, Sonication Extraction (with pre-treatment of sample with anhydrous magnesium sulfate and solvent extraction with F-113). SW-846, Test Methods For Evaluating Solid Waste - Physical/Chemical Methods, USEPA. EPA Method 418.1, Petroleum Hydrocarbons, Total Recoverable (Infrared Spectrophotometric Method). Methods for Chemical Analysis of Water and Waste, USEPA, EPA-600/4-79-020.

Diesel Range Organics (DRO) - Measurement of Petroleum Hydrocarbons: Report On Activities To Develop A Manual, EPA Work Group.

K00004454

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - MIS					Project Number CHEM-94-1287A
Sample Identification	Waste Oil Tank					
Sample Depth	–					
Sample Type	soil					
Sample Date	05-16-94					
Received Date	05-19-94					
Extraction Date	05-24-94					
Percent Moisture, w/w	89					
Analysis Date	05-24-94					
Report Date	05-31-94					
Control Number	941287-01					
TPH, mg/kg – 418.1						TMDL
TPH	23					10
PETROLEUM HCs, mg/kg-EPA						TMDL
Diesel Range Organics	nd					4

NOTES: TMDL = Target Method Detection Limit, mg/kg (parts-per-million)
nd = Parameter Not Detected At TMDL
Results Corrected To Dry-Weight Basis

Reviewed By [illegible] Date 05/31/94 Data File 941287A

K00004455

TABLE QC1. ANALYTICAL RESULTS

CONSUMERS POWER COMPANY

Environmental & Technical Services Department

DIESEL RANGE ORGANICS QC SUMMARY	Measurement Of Petroleum Hydrocarbons: Report On Activities To Develop A Manual, USEPA Work Group

INITIAL CALIBRATION

Hydrocarbon Range	RF units	Date
DRO	ug/mL/area count	05-19-94

TPH	RF10	RF50	RF100	RF500	RF1000	AvgRF	%RSD
DRO	3.209E-05	3.352E-05	3.403E-05	3.442E-05	3.395E-05	3.360E-05	2.7

ONGOING CALIBRATION CHECK

Hydrocarbon Range	RF units	Date
DRO	ug/mL/area count	05-24-94

TPH	AvgRF	RF50	%DIFF	Criteria			
DRO	3.360E-05	3.410E-05	1.5	< +/- 25%			

RETENTION TIME CHECK

HC Parameter	Initial RT	Ongoing RT
C10	9.391	9.395
C12	13.765	13.769
C14	17.450	17.451
C16	20.675	20.679
C18	23.593	23.596
C20	26.226	26.233
C22	28.580	28.584
C24	30.680	30.684
C26	32.881	32.885
C28	34.831	34.835

MASS DISCRIMINATION CHECK

C20, area count	4732945
C28, area count	4198481
%DIFF	-11.2
Criteria	< +/- 15%

MATRIX SPIKE RECOVERY

Sample Control #	941287-01
Added Concentration, mg/kg	50
Original Concentration, mg/kg	<4
Found Concentration, mg/kg	45
Percent Recovery, %	90
Acceptance Range, %	50 - 100

THIS QC SUMMARY APPLIES TO THE FOLLOWING PROJECT NUMBER SAMPLES

Project Number	Analysis Date	Notes
941287-01	05-24-94	

Approved For Use By [signature] Date 052494

K00004456

McNAMEE
ENGINEERING EXCELLENCE
SINCE 1914

McNamee, Porter & Seeley, 3131 South State Street, Ann Arbor, Michigan 48108

CLIENT: MIS/CONSUMERS POWER	ADDRESS: 135 WEST TRAIL ST. JACKSON, MI 49201
PROJECT NO.:	PROJECT NAME: KALAMAZOO ZEELAND SERVICECENTERS
PHONE NO.: (517) 788-0392	
CLIENT CONTACT: GARY MOLCHEN	SAMPLER: JERRY RANDALL

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TPH	BTEX							REMARKS
1	94-1287 -1	5-16-94	14:00		✓	SOIL - CPC KALAMAZOO WASTE OIL TANK	1	✓								
2	↓ -2	5-17-94	13:30		✓	SOIL - CPC ZEELAND HA-1	1		✓							
3																
4																
5																
6																
7																
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1 & 2	Jerry Randall			
2		From FedEx	[signature]	5/19/94	1030
3					
4		K00004457			

REMARKS

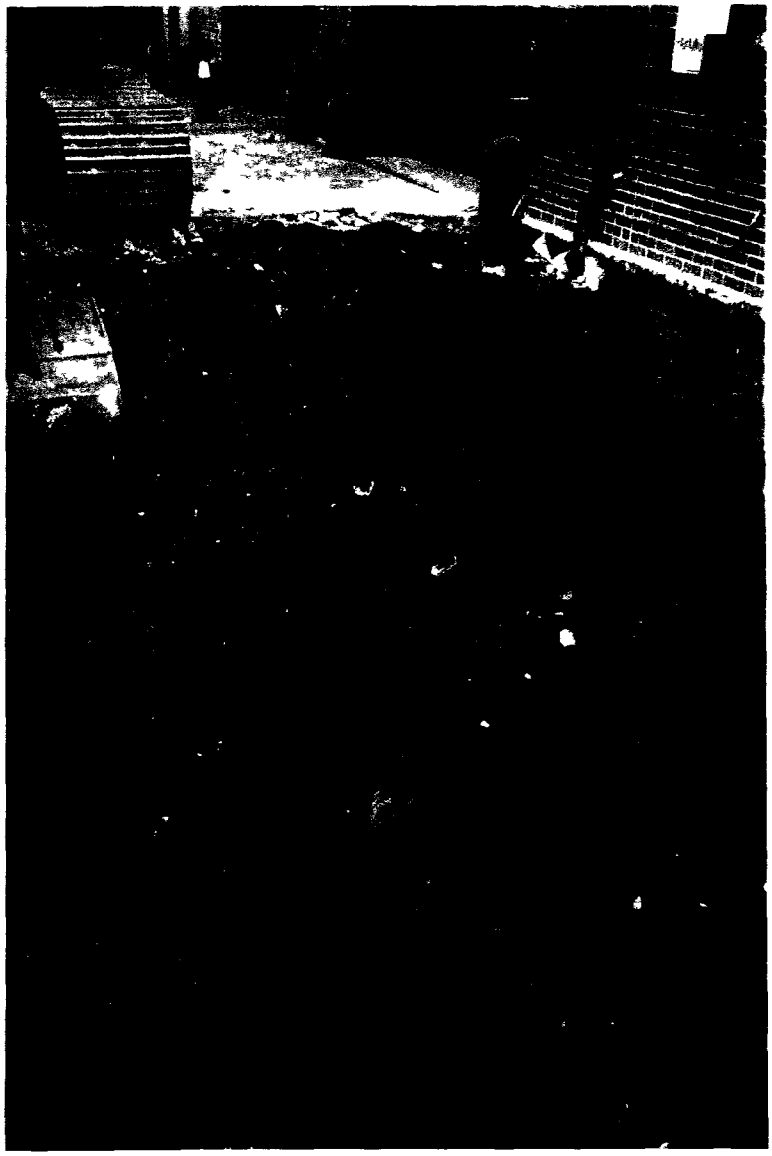
ATTN: BILL VOIGHT
SHIPPED FEDEX ON 5-18-94
2 MCNAMEE TAMPER LABELS ON CARTON W/MY SIGNATURE

SAMPLER'S SIGNATURE: Jerry Randall

APPENDIX C

Photographs

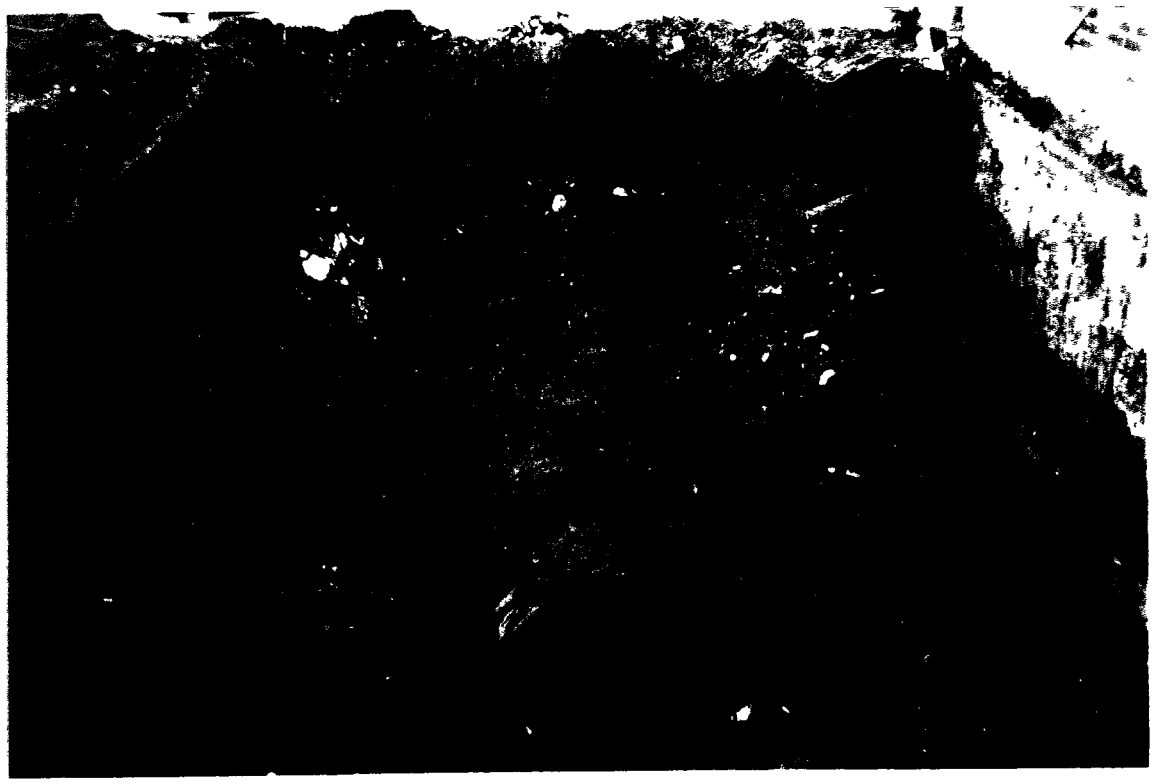
K00004458



Photograph 1

Exposed Tank

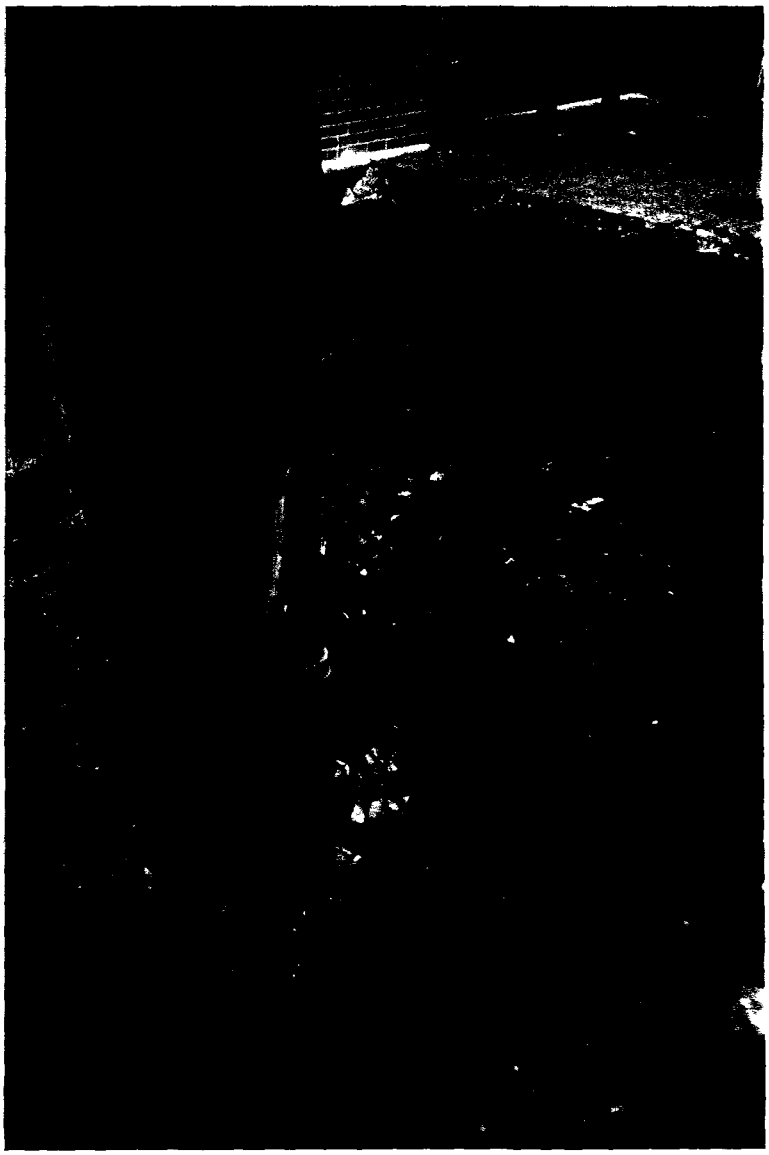
K00004460



Photograph 2

Tank Prior to Removal

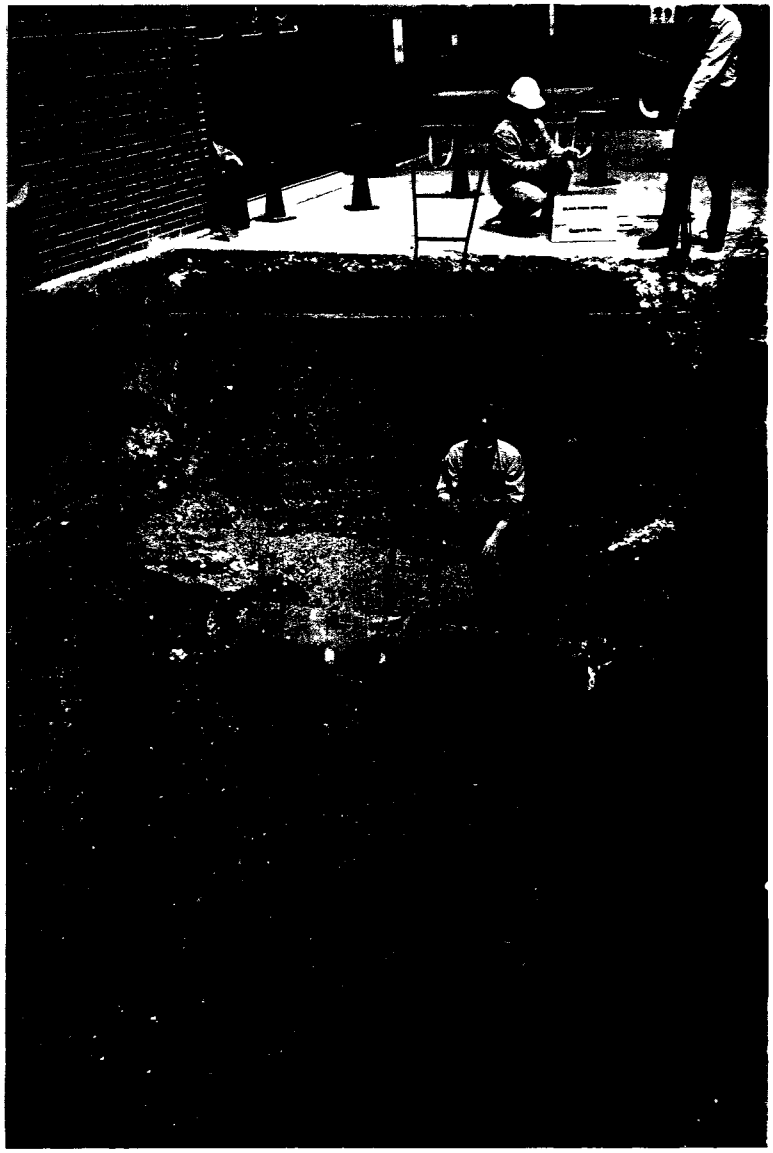
K00004461



Photograph 3

Storm Drain North Wall

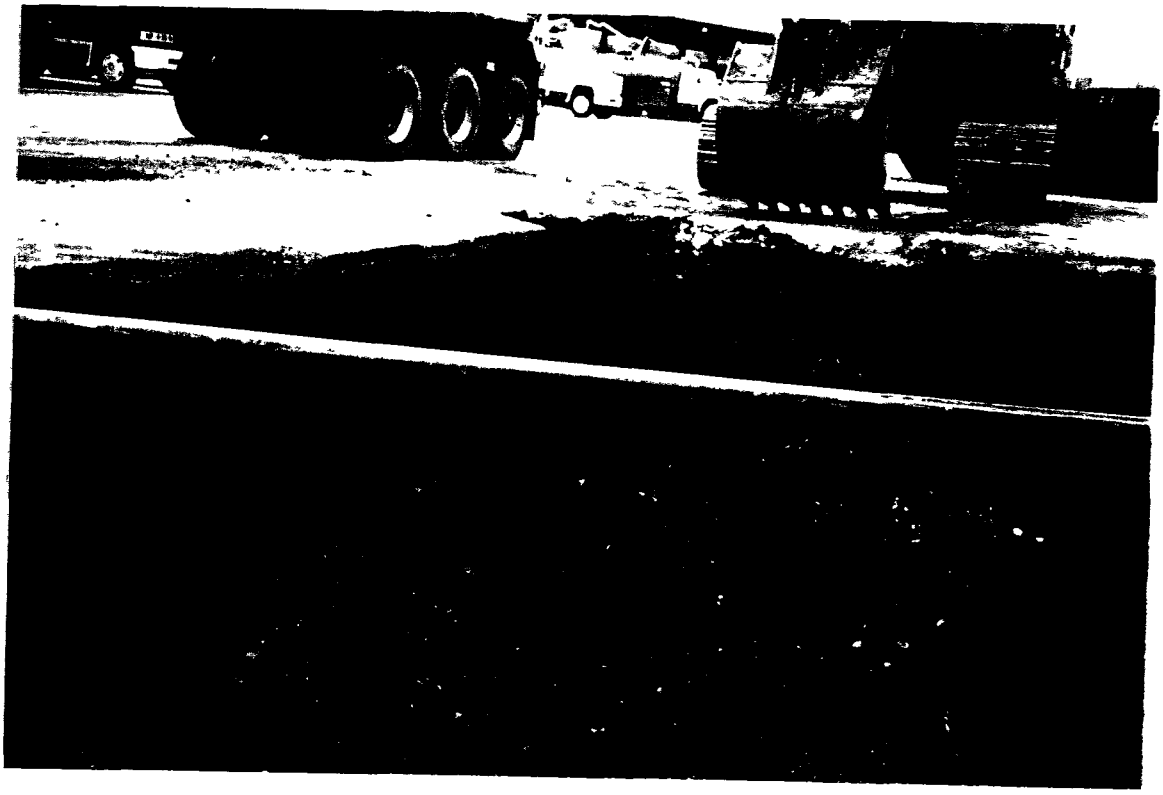
K00004462



Photograph 4

Storm Drain North Wall

K00004463



Photograph 5

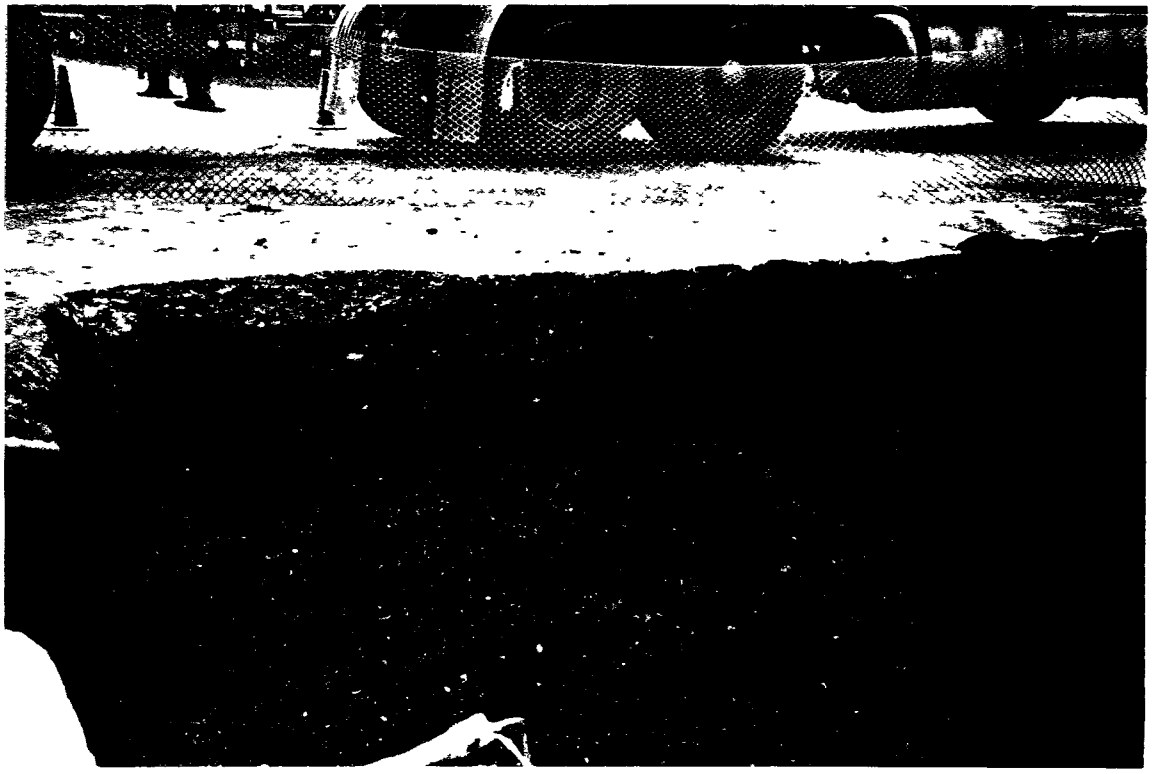
South Wall

K00004464

Photograph 6

South and West Wall

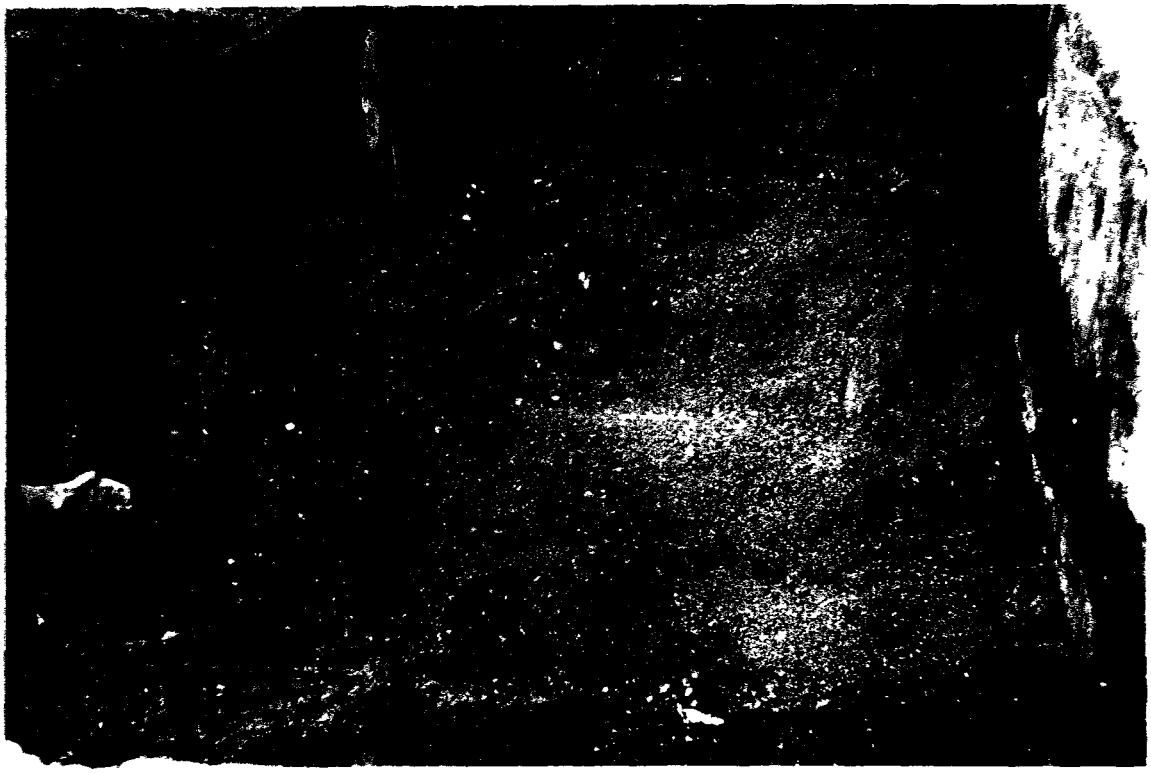
K00004465



Photograph 7

East Wall

K00004466



Photograph 8

Clean Floor with Excavation Prior to Backfill

K00004467

EXHIBIT 3 A

NOVEMBER 4, 1994

MDNR (MDE) CLOSURE ACKNOWLEDGEMENT

K00004468

NATURAL RESOURCES COMMISSION
JERRY C. BARTNIK
LARRY DEVUYST
PAUL EISELE
JAMES P. HILL
DAVID HOLLI
JOEY M. SPANO
JORDAN B. TATTER

STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

Stevens T. Mason Building, P.O. Box 30028, Lansing, MI 48909

ROLAND HARMES, Director

received 11-9-94

November 4, 1994

Mr. Robert Neumann
Consumers Power Company
1945 West Parnall Road
Jackson, Michigan 49201

MERA Site ID #390151
MUSTFA Claim #

Dear Mr. Neumann:

SUBJECT: Closure Report Dated October 31, 1994 for a Confirmed Release Dated December 21, 1990 from a 550 Gallon Waste Oil Leaking Underground Storage Tank at Consumers Power Company Kalamazoo Service Center, 2500 East Cork Street, Kalamazoo, Kalamazoo County

The Michigan Department of Natural Resources (MDNR) has not audited this report and, therefore, cannot comment upon the completeness or adequacy of the report's conclusions. In accordance with Section 6f.(3) of the Leaking Underground Storage Tank (LUST) Act, 1988 PA 478, as amended, the Consumers Power Company Kalamazoo Service Center portion of the site that has been remediated pursuant to this Act has been removed from any list of the MDNR that identifies sites of contamination.

Under Section 6h.(2) of Act 478, the MDNR has the right to audit the results of the investigation and the corrective actions undertaken. If the audit confirms that corrective actions have been conducted in compliance with this Act and that cleanup standards have been met, the MDNR will supply the owner or operator of this facility with a letter that describes the audit and its results.

In accordance with Sections 6f.(3) and 6h.(3), if an audit does not confirm that corrective actions have been conducted in compliance with this Act or that cleanup standards have been met, the site will be placed on the list of contaminated sites and the owner or operator of this facility may be required to do any or all of the following:

1) Provide additional information related to any requirement of this Act.

2) Retain a consultant to implement corrective actions, hydrogeological studies, or remediation alternative studies on an accelerated implementation schedule.

3) Retain a consultant to take additional corrective actions necessary to comply with this Act or to protect public health, safety, welfare or the environment.

K00004469

PRINTED ON RECYCLED PAPER

If you have any further questions, please contact Ms. Debra S. Clark at the Plainwell District Office, Underground Storage Tank Division, MDNR, 1342 SR-89, Suite B, Plainwell, Michigan, 49080-1915, or at telephone number 616-692-2120.

Sincerely,

Mohammad Yusaf

Mohammad Yusaf, P.E., Chief
Field Operations Section
Underground Storage Tank Division
517-373-3135

cc: Mr. Gary A. Molchan, McNamee Industrial Services
Ms. Connie Cousins-Leatherman, Kalamazoo County Human Services Department
Mr. Tim Meulenberg, Kalamazoo Water Reclamation Plant
Mr. Jerry VanDenBerg, Neighborhood Improvement Services, City of Kalamazoo
Ms. Liane Shekter Smith, MDNR

EXHIBIT ~~5~~ 4

SEPTEMBER 24, 1996

FINAL ASSESSMENT REPORT

KALAMAZOO SERVICE CENTER

Product tank removals

K00004471

Consumers Power
POWERING MICHIGAN'S PROGRESS
Environmental & Technical Services Department: 1945 West Parnall Rd, Jackson, MI 49201 • FAX (517) 788-2329

September 24, 1996 7SM905.9.6

Ms Debra S Clark
Underground Storage Tank Division
Plainwell District Office
Michigan Department of Environmental Quality
1342 SR-89, Suite B
Plainwell, MI 49080-1915

FINAL ASSESSMENT REPORT
KALAMAZOO SERVICE CENTER
2500 EAST CORK STREET, KALAMAZOO
MERA #390151
FACILITY ID 0-017371

Enclosed for review is the "Final Assessment Report" as prepared by the site consultant, Soil and Materials Engineers, Inc (SME). The report summarizes the activities and results of additional groundwater monitoring and previously reported investigation activities related to free product delineation and recovery.

SME recommends that additional investigations are not necessary at this time. However, SME does recommend to continue with groundwater monitoring as presented in the Final Assessment Report. SME's recommendations are supported by Consumers Power Company.

If there are any questions, please do not hesitate to contact me on 517-788-0350, or Ms Cheryl Kehres-Dietrich at SME on 313-454-9900.

Robert G Neumann PE
UST Compliance Engineer
Environmental and Technical Services Department

cc CAKehres-Dietrich, SME, letter only AMAurino, Owosso
MJWilliams, Grand Rapids AFGoodman, M-1049 DSHaueisen, P-11-400
KNVanZanten, Grand Rapids RBEldridge, Lansing

00996-24.RGN

K00004472

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION

DEQ

LEAKING UNDERGROUND STORAGE TANK
FINAL ASSESSMENT REPORT

INSTRUCTIONS: COMPLETION OF THIS REPORT WITH ALL APPLICABLE INFORMATION IS MANDATORY. The Certified Underground Storage Tank Professional (CP) MUST sign below. Failure to submit a report within the stated time period may result in Administrative Penalties as provided for in Part 213, Section 21321 of Act 451, P. A. 1994 as amended.

FACILITY NAME: Consumers Power Company Kalamazoo Service Center	FACILITY ID NUMBER: 0-017371
ADDRESS: 2500 East Cork Street COUNTY: Kalamazoo	MERA SITE ID NUMBER: 390151
DATE(S) RELEASE DISCOVERED: 10/19/94	CONFIRMED RELEASE NUMBER(S): C1243-94 (diesel UST) C1255-95 (gas UST)
O/O NAME: Consumers Power Company	MUSTFA CLAIM NUMBER: 042691-1250
O/O ADDRESS 1945 West Parnall Road/ Jackson, Michigan 49201	
CONTACT PERSON: Mr. Robert G. Neumann	PHONE NUMBER: (517) 788-0350

ANSWER ALL QUESTIONS (DO NOT LEAVE BLANKS):

1. Has the UST been emptied? X Yes No (If no, explain why):
2. Free product present: a. Currently? ___ YES X NO If YES, total gallons recovered since last report: 0
   b. Previously? X YES ___ NO If YES, total gallons recovered to date: 53
3. Have vapors been identified in any confined spaces (basement, sewers)? YES X NO
4. State the number of homes where drinking water is or was affected as a result of a release from this facility: 0
5. Estimated distance and direction from point of release to nearest: a. Private well: approximately 1 mile northeast
   b. .Municipal well: approximately 2.3 miles northwest c. Surface water/wetland: approximately 625 feet east
6. Since last report: a. cubic yards of soil remediated: 0 b. gallons of groundwater remediated: 0
7. Totals to date: a. cubic yards of soil remediated: 280 b. gallons of groundwater remediated: 0
8. Michigan RBCA Site Classification (1-4): 4

CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate and complete. I certify that it was submitted to the USTD on 9/25/96.
(date submitted-*REQUIRED*)

Cheryl A. Kehres-Dietrich 9/25/96
CP Original Signature - Required / Date

Patrick G. Barrese
PRINT QC Project Manager's Name

Cheryl A. Kehres-Dietrich
PRINT CP's Name

Soil and Materials Engineers, Inc.
Consultant

43980 Plymouth Oaks Blvd.
Plymouth, Michigan 48170
Address

(313) 454-9000
Phone Number

(313) 454-0629
Fax Number

K00004473

UNDERGROUND STORAGE TANK DIVISION OFFICES AND LOCATIONS

Determine in which county the UST release occurred. Return all completed forms and associated reports to the USTD office listed next to that county in the following table. Addresses for the USTD offices are listed below.

COUNTY	USTD OFFICE	COUNTY	USTD OFFICE	COUNTY	USTD OFFICE	COUNTY	USTD OFFICE
Alcona	Grayling	Dickinson	Marquette	Lake	Grayling	Oceana	Grand Rapids
Lager	Marquette	Eaton	Shiawassee	Lapeer	Shiawassee	Ogemaw	Grayling
Allegan	Plainwell	Emmet	Grayling	Leelanau	Grayling	Ontonagon	Marquette
Alpena	Grayling	Genesee	Shiawassee	Lenawee	Jackson	Osceola	Grayling
Antrim	Grayling	Gladwin	Grayling	Livingston	Shiawassee	Oscoda	Grayling
Arenac	Grayling	Gogebic	Marquette	Luce	Marquette	Otsego	Grayling
Baraga	Marquette	Grand Traverse	Grayling	Mackinac	Marquette	Ottawa	Grand Rapids
Barry	Plainwell	Gratiot	Shiawassee	Macomb	SE Michigan	Presque Isle	Grayling
Bay	Saginaw-Bay	Hillsdale	Jackson	Manistee	Grayling	Roscommon	Grayling
Benzie	Grayling	Houghton	Marquette	Marquette	Marquette	Saginaw	Saginaw-Bay
Berrien	Plainwell	Huron	Saginaw-Bay	Mason	Grayling	Sanilac	Saginaw-Bay
Branch	Jackson	Ingham	Shiawassee	Mecosta	Grand Rapids	Schoolcraft	Marquette
Calhoun	Jackson	Ionia	Grand Rapids	Menominee	Marquette	Shiawassee	Shiawassee
Cass	Plainwell	Iosco	Grayling	Midland	Saginaw-Bay	St Clair	SE Michigan
Charlevoix	Grayling	Iron	Marquette	Missaukee	Grayling	St Joseph	Plainwell
Cheboygan	Grayling	Isabella	Saginaw-Bay	Monroe	SE Michigan	Tuscola	Saginaw-Bay
Chippewa	Marquette	Jackson	Jackson	Montcalm	Grand Rapids	Van Buren	Plainwell
Clare	Grayling	Kalamazoo	Plainwell	Montmorency	Grayling	Washtenaw	Jackson
Clinton	Shiawassee	Kalkaska	Grayling	Muskegon	Grand Rapids	Wayne	SE Michigan
Crawford	Grayling	Kent	Grand Rapids	Newaygo	Grand Rapids	Wexford	Grayling
Delta	Marquette	Keweenaw	Marquette	Oakland	SE Michigan		

CADILLAC OFFICE ROUTE #1 8015 MACKINAW TRAIL CADILLAC MI 49601 616-775-9727 (PHONE) 616-775-9671 (FAX)	**JACKSON OFFICE** 301 E LOUIS GLICK HIGHWAY JACKSON MI 49201 517-780-7900 (PHONE) 517-780-7855 (FAX)	**SAGINAW BAY OFFICE** 503 N EUCLID AVE SUITE 9 BAY CITY MI 48706 517-684-9141 (PHONE) 517-684-9799 (FAX)
GAYLORD OFFICE P0 BOX 667 GAYLORD MI 49735 517-732-3541 (PHONE) 517-732-0794 (FAX)	**MARQUETTE OFFICE** 1990 US 41 SOUTH MARQUETTE MI 49855 906-228-6561 (PHONE) 906-228-5245 (FAX)	**SHIAWASSEE OFFICE** 10650 BENNETT DR MORRICE MI 48857-9792 517-625-4600 (PHONE) 517-625-5000 (FAX)
GRAND RAPIDS OFFICE 350 OTTAWA ST NW GRAND RAPIDS MI 49503 616-456-5071 (PHONE) 616-456-1239 (FAX)	**PLAINWELL OFFICE** 1342 SR-89 SUITE B PLAINWELL MI 49080-1915 616-692-2120 (PHONE) 616-692-3050 (FAX)	**SE MICHIGAN OFFICE** 38980 SEVEN MILE RD LIVONIA MI 48152 313-953-0241 (PHONE) 313-953-0243 (FAX)
GRAYLING OFFICE 1955 NORTH I-75 BL GRAYLING MI 49738 517-348-6371 (PHONE) 517-348-8825 (FAX)		

K00004474

FINAL ASSESSMENT REPORT

CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN

SEPTEMBER 25, 1996

Consultants in the geosciences, materials and the environment

- *Caissons/Piles*
- *Corrosion*
- *Dewatering*
- *Earth Retention Systems*
- *Forensic Engineering*
- *Foundation Engineering*
- *Geodynamics/Vibrations*
- *Geophysical Surveys*
- *Geotextiles*
- *Ground Modification*
- *In-situ Testing*
- *Slope Stability*
- *Building Restoration*
- *Coatings*
- *Concrete*
- *Construction Quality Control*
- *Facility Management*
- *Masonry/Stone*
- *Metals*
- *Pavements*
- *Roofs*
- *Sealants*
- *Structural Steel*
- *Waterproofing*
- *Air Quality*
- *Asbestos/Lead Abatement*
- *Compliance Audits*
- *Contamination-Remediation*
- *Environmental Site Assessments*
- *Hydrogeologic Studies*
- *RCRA Compliance*
- *Risk Assessment*
- *Storm Water Discharge*
- *Underground Storage Tanks*
- *Waste Minimization*
- *Wetlands*

K00004475

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LIST OF ATTACHMENTS

(Include as Required and Check Box if Attached)
Attachments 1, 2, 6-12, 16-18, and 22-28 are to be submitted if applicable.
Attachments 3-5, 13-15, and 19-21 are found in the back of this document and should be completed and submitted when necessary.

ATTACHMENT NUMBER	DESCRIPTION
. 1	Site Map Showing Extent of Remaining Free Product
. X2	Free Product Recovery System Schematic
. X3	Field Screening Results Table for Soils
. X4	Laboratory Results Table for Soils
. 5	Tier I RBSL / Tier II or Tier III SSTL Comparison Table for Soils
. 6	Site Map Showing Soil Sampling Locations, Maximum Contaminant Concentrations, and Sampling Depths
. X7	Site Map(s) Showing Vertical and Horizontal Distribution of Contaminants in Soil
. X8	Cross Sections
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. X11	Groundwater Flow Map Showing Water Level Measurement Locations
. 12	Description of Hydrogeologic Factors That Could Influence Groundwater Flow
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. X16	Site Map Showing Groundwater Sampling Locations, Maximum Contaminant Concentrations, and Location of Contaminant Plume
. 17	Cross Sections Showing the Vertical and Horizontal Distribution of Groundwater Contaminants
. X18	Presentation of Time Series Groundwater Results
. 19	Field Screening Results Tables for Other Media
. 20	Laboratory Results Tables for Other Media
. 21	Tier I RBSL / Tier II or Tier III SSTL Comparison Tables for Other Media
. 22	Site Map Showing Sampling Locations and Maximum Contaminant Concentrations for Other Media
. 23	Calculations Supporting the Development of the Tier I and Tier II or Tier III SSTLs
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. X30	Locations of Former UST Systems at the Site
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. X32	Chronological Summary of Report Submittals
. X33	Copy of Certificate of Insurance

K00004478

1.0 REPORTING AND RESPONSE TO RELEASES INVOLVING FREE PRODUCT

A. Has free product been encountered subsequent to submission of the Initial Assessment Report?
X Yes __ No

If "No", skip to Section 2.0. If "Yes", continue with question "B" below.

B. Date and Time Free Product Was Discovered: 2 / 17 / 95 AM AM / PM

C. Date and Time Free Product Fax:
Transmittal Sheet Submitted: 2 / 20 / 95 9:27 (AM) / PM

D. Has there ever been free product in the on-site or off-site soils? ___Yes X No

E. Is there currently free product in the on-site or off-site soils? ___Yes X No

F. Is there currently free product in or around buried underground utilities? ___Yes X No

G. Has there ever been free product on/in the groundwater? X Yes ___No

H. Is there currently free product on/in the groundwater? ___Yes X No

I. What initial response actions were performed at this site to address the presence of free product?

PURPOSE OF INITIAL RESPONSE ACTIONS	WERE ACTIONS TAKEN? (Yes/Date or No)	IF "Yes", DESCRIBE THE ACTIONS TAKEN AND THEIR RESULTS IF "No", INDICATE WHY NOT
To identify the presence of free product [324.21307(2)(c)]	Yes, 5/95 and 4/96	5/95 Drilled B301 through B304 Installed MW301 and MW303 4/96 Drilled B401 through B406 Installed MW401, MW404S, MW404D and MW406 For both events no additional free-phase product was encountered.
To recover free product in a manner that minimizes the spread of contamination into previously uncontaminated zones [324.21307(2)(c)(i)]	Yes, 2/95 through 3/96	Free product was recovered manually from MW204 by bailing. Bailing was conducted on a daily basis from 2/12/95 through 3/3/95 and on a weekly or biweekly basis from 3/3/95 through 6/96.
To utilize recovery and disposal techniques appropriate to site conditions [324.21307(2)(c)(i)]	See above	Bailed product was stored on-site temporarily in a 55-gallon drum.
To properly treat recovery by-products as required by law (identify the type of treatment applied and the expected effluent quality) [324.21307(2)(c)(i)]	NA	NA

1.0 REPORTING AND RESPONSE TO RELEASES INVOLVING FREE PRODUCT (Continued)

PURPOSE OF INITIAL RESPONSE ACTIONS	WERE ACTIONS TAKEN? (Yes/Date or No)	IF "Yes", DESCRIBE THE ACTIONS TAKEN AND THEIR RESULTS. IF "No", INDICATE WHY NOT
To properly dispose of recovery by-products as required by law [324.21307(2)(c)(i)]	Yes	Free product stored on-site in 55-gallon drum periodically disposed of by Small Quantities Specialists (SQS) of Kalamazoo, Michigan. The free product is being transported to Michigan Recovery Systems, Inc. by SQS for disposal, in Romulus, Michigan.
To handle any flammable products in a safe and competent manner to prevent fires and explosions [324.21307(2)(c)(iii)]	Yes	Drummed product was kept outside to minimize vapor build-up.

J. Complete the following table relating to free product recovery:

LOCATION OF OBSERVED FREE PRODUCT (Specify ID No.)	THICKNESS OF FREE PRODUCT OBSERVED (nearest 1/8")	TYPE OF FREE PRODUCT OBSERVED	LNAPL OR DNAPL*?	QUANTITY OF FREE PRODUCT RECOVERED (gallons)
IN WELLS				
MW204/RW1	<1/8"	Diesel/Leaded Gasoline	LNAPL	53-Gallons
IN BOREHOLES				
IN EXCAVATIONS				
OTHER LOCATIONS (Specify)				
TOTAL FREE PRODUCT RECOVERED TO DATE				**53 Gallons**

*LNAPL = Light Non-Aqueous Phase Liquid; DNAPL = Dense Non-Aqueous Phase Liquid

K. Has the extent of free product been defined? X Yes ___No

K00004480

1.0 REPORTING AND RESPONSE TO RELEASES INVOLVING FREE PRODUCT (Continued)

L. If "Yes", include the extent of free product on the site map included as Attachment No. 1.

As of March, 1996 the occurrence of free product at the site was limited to MW204. Since the replacement of MW204 with RW1 in March, 1996, no free product has been encountered in RW1 during subsequent well development and groundwater sampling activities.

M. Describe the free product recovery system that was or is being used___or is proposed X
(include a schematic as Attachment No. 2, if appropriate): The proposed free product recovery system would consist of a total fluids pump discharging to an oil/water separator with final discharge to the sanitary sewer. See Attachment No. 2 for system schematics.

N. If the free product recovery system is currently "proposed", provide the planned installation date:

Free product recovery system will be installed if free product is again encountered at RW1.

O. Has the recovered free product been properly disposed? X Yes ___No

P. If "No", specify:_____

Q. Provide the name of the person or persons responsible for implementing the free product removal measures:

Company Name: Soil and Materials Engineers, Inc.
Company Address: 43980 Plymouth Oaks Boulevard
Plymouth, MI 48170-2584

Company Telephone No. (313) 454-9900
Contact Person: Patrick Barrese
Contact Telephone No. ( ) Same as above

2.0 DELINEATION OF THE EXTENT OF CONTAMINATION

A. Were additional site assessment activities conducted subsequent to the submission of the Initial Assessment Report? X Yes ___No

K00004481

2.0 DELINEATION OF THE EXTENT OF CONTAMINATION (Continued)

B. If "Yes", what environmental media were further investigated?
(Check all that apply):

X Soil X Groundwater ___Air ___Surface Water

Sediments Biota Other *(Specify)*:_____

C. Was the Work Plan implemented as outlined in the Initial Assessment Report?
___Yes X No

D. If "No", describe the changes made to the sampling and analysis plan in detail and provide justification for why they were made *(attach additional sheets, as needed)*: See Attachment No. 29.

2.1 SITE AND AREA MAPS

Area and site map(s), drawn to scale, may be used to effectively present a variety of information required to be included in this Final Assessment Report. It may not be possible to include all required information on one map. Multiple maps may be attached, with each highlighting a different type of information. However, use of multiple maps should be minimized. Placement of information on the site map(s) should be done in a clear and legible manner. The area map should show the location of the site boundaries in relation to the nearest major roads.

The base site map on which to display information required for the Final Assessment Report should include the following, as appropriate:

- *Location of each underground storage tank and associated piping in the leaking underground storage tank system (prior to excavation if tanks have been removed)*
- *Location of the release and the component of the underground storage tank system from which the release occurred*
- *Location of any other existing and former underground storage tanks at the site*
- *Approximate location of fill ports, dispensers, and other pertinent system components*
- *Location of nearby buildings, roadways, paved areas, or other structures*
- *Location of nearby surface waters or wetlands*
- *Location and depth of nearby underground sewers and utility lines*
- *Location of all wells within 100 feet of the property boundary*

Attachment No. 30 shows the layout of Former UST Systems at the site.

K00004482

2.2 SOIL CONDITIONS AND CHARACTERISTICS

A. Is soil contamination present? X Yes ___No

NOTE: If "Yes", complete questions "B" through "H". If "No", skip to Section 2.3.

B. Total volume of soil remediated or disposed to date: 280 yds^3

C. Describe any soil remediation or disposal activities performed to date: Approximately 280 yds^3 of soil was removed by excavation during UST systems removal activities conducted in October, 1994. The soil was transported to and disposed of at the BFI Type II Landfill in Marshall, Michigan.

D. Attach Field Screening Results (Attachment No. 3) and Laboratory Results (Attachment No. 4) tables showing the results of all soil sampling performed to date for the listed parameters. *(NOTE: The USTD may request copies of the laboratory data sheets, chain-of-custody forms, and all available QA/QC information.)*
Additional field screening and laboratory data may be referenced in site investigation reports prepared by SME dated March 17, 1995, July 25, 1995 and May 2, 1996.

E. Provide in the Comparison Table for Soils (included as Attachment No. 5) the maximum contaminant concentrations detected to date in the remaining soils for each listed parameter. *(NOTE: Enter "ND" with the appropriate method detection limit when the parameter was not detected, and enter "NA" when the chemical was not analyzed. In areas where remediation has occurred, do not include sample results for areas where the soil has been subsequently removed or the characteristics of the soil left in place have been altered due to the remediation.)* Attachment No. 5 has not been included because analytical results for soil samples obtained at the site are less than Tier 1 Residential Leaching to Groundwater Criteria, See 2.2 - G.

F. Show the maximum concentrations, sample depths, and horizontal extent of soil contamination in relation to the soil sampling locations on a site map. *(Include as Attachment No. 6.)* Attachment No. 6 has not been included. See Attacment No. 7 for figure showing soil sampling locations, analytical results and corresponding sample depths for soil samples obtained to date at the site.

G. Describe the vertical extent and distribution of the soil contaminants using depth-coded site maps (Attachment No. 7), cross sections (Attachment No. 8), and/or boring logs (Attachment No. 9):
With the exception of former excavation soil sample S32, analytical results for soil samples obtained to date at the site from both the former UST systems excavation and soil borings have indicated BTEX, PNA and/or total lead concentrations either less than the corresponding method detection limits (MDLs) or less than the corresponding Tier 1 Residential Leaching to Groundwater Criteria. The BTEX and total lead concentrations for S32 were either less than the corresponding MDLs or less than the corresponding Tier 1 Residential Criteria. The PNA concentrations for S32 were either less than the MDL or less than the corresponding Tier 1 Residential Leaching to Groundwater Criteria with the exception of phenanthrene where the indicated concentration of 11,000 parts per billion (ppb of ug/kg) exceeded the Tier 1 Residential Leaching to Groundwater Criterion of 7,400 ppb, but was less that the Tier 1 Residential Direct Contact Criterion of 1,500,000 ppb. S32 was evaluated for phenanthrene by the Synthetic Precipitation Leaching Procedure (SPLP) and the reported concentration was less than the MDL. Therefore, it is SME's opinion that analytical testing has sufficiently demonstrated that the phenanthrene impact at S32 will not result in impact to groundwater at concentrations exceeding Tier 1 Residential criterion and that the extent of residual hydrocarbon impact to soil at the site has been adequately delineated.

2.2 SOIL CONDITIONS AND CHARACTERISTICS (Continued)

H. Was any on-site soil contamination not related to the release discovered during the site characterization activities performed subsequent to the submission of the Initial Assessment Report?

___Yes X No

If "Yes", answer question "I"; otherwise, skip to Section 2.3.

I. Provide the following information:

ON-SITE CONTAMINANTS NOT RELATED TO THE RELEASE	SOURCE OF THIS CONTAMINATION (If Known)	LOCATION OF THIS CONTAMINATION

2.3 GROUNDWATER CONDITIONS AND CHARACTERISTICS

Note: UGU - Upper Groundwater Unit
LGU - Lower Groundwater Unit

A. Has groundwater been encountered at the site? X Yes ___No

B. If "No", provide the total depth investigated and the date of investigation:

Depth of Investigation: _____ft BGS
Date of Investigation: ____/____/____

If "No", skip to Section 2.4; otherwise, continue with Section 2.3.

C. Is the groundwater potable? ___Yes X No
D. Is the groundwater currently a source of drinking water? ___Yes X No
E. Is groundwater being used for a purpose other than potable drinking use? ___Yes X No
F. Is more than one groundwater unit present beneath the site? X Yes ___No ___Unknown

Hydrogeologic Characteristics (*if appropriate*):
G. Average depth to groundwater (as measured in site well(s)): UGU = 16.7, LGU = 25.4 ft BGS
H. Depth to bottom of water-bearing layer: UGU = 21, LGU = unknown ft BGS
I. Depth to a potable groundwater unit: 75 ft BGS
J. Attach copies of boring logs (Attachment No. 9) and well construction diagrams (Attachment No. 10) for all monitoring wells.

Groundwater Flow Rate and Direction:
K. Predominant soil type in water-bearing stratum (*e.g., sand, silt*): UGU = sand, LGU = sand/interbedded sand & clay
L. Effective porosity of water-bearing stratum UGU = .30, LGU = .35 $cm^{3\ void}/cm^{3\ soil}$
(Estimated)

K00004484

2.3 GROUNDWATER CONDITIONS AND CHARACTERISTICS (Continued)

M. Hydraulic conductivity (measured X estimated): UGU = 10^{-3}-10^{-4}, LGU = 10^{-4} cm/sec

N. Lateral hydraulic flow gradient (*attach a site map with groundwater flow direction and elevation data as Attachment No. 11 - USGS datum preferred*): UGU = 0.002, LGU = 0.03ft/ft to UGU = N-NE, LGU = NW (direction)

O. Effective groundwater flow rate: UGU = 0.7, LGU = 9ft/yr

P. Identify hydrogeologic conditions that could influence flow direction *(describe here or attach description as Attachment No. 12)*: Seasonal fluctuations in groundwater elevations

Q. Is there any indication of a vertical flow gradient? ___Yes X No

R. If "Yes", describe: _____

S. Has the groundwater been affected by the release? X Yes ___No

If "No", skip to Section 2.4; otherwise, continue with Section 2.3.

T. Has there been more than one groundwater unit contaminated by the release? X Yes ___No

U. If "Yes", attach additional sheets answering questions "G" through "R" for each groundwater unit.

V. Describe any groundwater remediation activities performed to date:

1. Performed free product monitoring at MW204/RW1 on a daily to bi-weekly basis over the period from February, 1995 through June, 1996.
2. Performed 3 quarters of groundwater sampling of site monitoring wells in December, 1995: April, 1996 and June, 1996.

W. Total volume of groundwater remediated to date: 53 gallons of free product with some groundwater.

X. Does the known plume currently extend off-site? ___Yes X No ___Unknown

K00004485

2.3 GROUNDWATER CONDITIONS AND CHARACTERISTICS (Continued)

Y. Attach Field Screening Results (Attachment No. 13) and Laboratory Results (Attachment No. 14) tables showing the results of all groundwater sampling performed to date for the listed parameters. *(NOTE: The USTD may request copies of the laboratory data sheets, chain-of-custody forms, and all available QA/QC information.)* Attachment No. 13 has not been provided. Field screening of groundwater at the site has not been performed during investigation activities to date at the site. Attachment 14 lists the results for the most recent groundwater sampling event conducted at the site on June 21, 1996.

Z. Provide in the Comparison Table for Groundwater (Attachment No. 15) the maximum contaminant concentrations detected to date in the on-site or off-site groundwater for each listed parameter. *(NOTE: Enter "ND" with the appropriate method detection limit when the parameter was not detected, and enter "NA" when the chemical was not analyzed. In areas where remediation has occurred, do not include sample results for areas where the groundwater has been subsequently altered due to remediation.)*

AA. Show the maximum concentrations and the estimated aerial horizontal extent of the contaminated plume in relation to the groundwater sampling locations on the site map and include as Attachment No. 16.

BB. Describe the vertical extent and distribution of the groundwater contaminants using depth-coded cross sections (Attachment No. 17) that show screened intervals of the monitoring wells. Cross sections locations should be included on the site map: Attachment No. 17 was not included because saturated thickness of the upper groundwater unit is approximately 4 feet and the vertical extent of impact is assumed to be throughout the saturated thickness. Attachment No. 8 shows geologic cross-sections which adequately demonstrate the limited saturated thickness of the upper groundwater unit.

Upper Groundwater Unit

BTEX and/or dissolved lead concentrations for groundwater samples obtained from MW401, MW404S and MW406 in June, 1996 exceeded the corresponding Part 213 Tier 1 Residential Criteria, however PNA concentrations were less that the corresponding Tier 1 Residential Criteria. The lateral extent of the impact has been defined. The lateral extent is defined to the west and east since the Upper Groundwater Unit was not observed at B402 and at previous borings B1, B101, B103 B104 B201 through B204, B302, B303, B304 and GP1. The lateral extent of impact is defined to the north and south since BTEX was not detected at concentrations greater that the MDLs in groundwater samples obtained from temporary wells set at B102, B403 and GP3. Given the saturated thickness of the Upper Groundwater Unit is approximately 4 feet, the vertical extent of impact is assumed to be inclusive of the saturated thickness.

Lower Groundwater Unit

BTEX, PNA and dissolved lead concentrations for groundwater samples obtained from MW201, MW202, MW301, MW303, MW404D and RW1 in June, 1996 were either less that the corresponding MDLs or less than the corresponding Tier 1 Residential Criteria, therefore there is no plume currently indicated above Tier 1 criterion.

CC. Were multiple groundwater sampling events conducted at the site? X Yes ___No

DD. If "Yes", include a chronological summary of the results for each sampling location using the data tables provided in Attachment No. 14 and include as Attachment No. 18. Attachment No. 18 also includes groundwater analytical results not presented in Attachment No. 14.

2.4 CONDITIONS AND CHARACTERISTICS IN OTHER ENVIRONMENTAL MEDIA

A. Is contamination present in any environmental media other than soil or groundwater?

___Yes X No

NOTE: If "Yes", answer questions "B" through "I". If "No", skip to Section 3.0.

B. What other environmental media were investigated as part of this corrective action? (*Check all that apply*):

Air Surface Water Sediment

Biota Other (*Specify*): _____

NOTE: For each environmental media checked, answer questions "C" through "I".

C. Total volume of each of the other specified media remediated or disposed to date (*Specify units*): _____

D. Describe any remediation, treatment or disposal activities performed to date relative to each of the other specified media: _____

E. Attach Field Screening Results (Attachment No. 19) and Laboratory Results (Attachment No. 20) tables showing the results of all sampling performed to date for the listed parameters in the other specified environmental media. *(NOTE: The USTD may request copies of the laboratory data sheets, chain-of-custody forms, and all available QA/QC information.)*

F. Provide in the Comparison Table for Other Environmental Media (Attachment No. 21) the maximum contaminant concentrations detected to date in each other specified environmental media for each listed parameter. *(NOTE: Enter "ND" with the appropriate method detection limit when the parameter was not detected, and enter "NA" when the chemical was not analyzed. In areas where remediation has occurred, do not include sample results for areas where the material has been subsequently removed or the characteristics of the material left in place have been altered due to the remediation.)*

G. Show the maximum concentrations, sample depths, and extent of contamination in the other specified environmental media (*as appropriate*) in relation to the sampling locations on the site map included as Attachment No. 22.

H. Describe the extent and distribution of the contaminants in the other specified media: _____

K00004487

2.4 CONDITIONS AND CHARACTERISTICS IN OTHER ENVIRONMENTAL MEDIA (Continued)

I. If there is known contamination in the other specified media not related to the release, complete the following:

ON-SITE CONTAMINANTS NOT RELATED TO THE RELEASE	SOURCE OF THIS CONTAMINATION (If Known)	LOCATION OF THIS CONTAMINATION

3.0 SITE CLASSIFICATION

A. Indicate the current Site Classification Level *(See Attachment No. 10 of the "Guidance Document for Risk-Based Corrective Action at Leaking Underground Storage Tanks"):*

Class 1: Immediate threat to human health, safety, or sensitive environmental receptors
Class 2: Short-term threat to human health, safety, or sensitive environmental receptors
Class 3: Long-term threat to human health, safety, or sensitive environmental receptors
X Class 4: No demonstrable long-term threat to human health, safety, or sensitive environmental receptors

NOTE: Regardless of the classification level, all reports must be submitted within the legislative time frame unless an alternate schedule is approved in writing by the USTD.

B. Date of most recent classification or reclassification: 5 / 2 / 96

C. Is this classification a reclassification performed subsequent to the submission of the Initial Assessment Report?
X Yes _ No

D. If "Yes", describe the conditions that have changed significantly since the prior classification to justify the reclassification: It has been determined after additional review of local residential well logs that the upper drinking water aquifer occurs at a depth of approximately 75 feet below grade (See Attachment No. 9 and 10 for residential well log).

K00004488

4.0 RESULTS OF THE TIER II OR TIER III EVALUATION

4.1 CONFIRMATION OF EXPOSURE PATHWAYS AND SCENARIOS

A. Have any of the following site characteristics or conditions, transport mechanisms, exposure routes, or potential receptors at the site or the surrounding area been newly identified to be present or changed significantly in character since the submission of the Initial Assessment Report? __ Yes___No __N/A
Potential transport mechanism(s), potential exposure route(s) and potential receptor(s) are being evaluated, for the first time at this site under the new risk based corrective action process.

B. If "Yes", check all that are newly identified or significantly changed since the submission of the Initial Assessment Report:

Site Characteristics or Conditions

___Neighboring Land Use or Local Zoning Changes
___New or Discontinued Uses of Groundwater At or Near the Site
___Changes in On-Site Facility Operations
___Construction of New Structures or Utilities At or Near the Site

Potential Transport Mechanism(s)

___Wind Erosion and Atmospheric Dispersion
___Volatilization and Atmospheric Dispersion
___Volatilization and Enclosed-Space Accumulation
___Leaching and Groundwater Transport
___Mobile Free-Liquid Migration
___Stormwater/Surface Water Transport
___Utility Corridors
X__Other *(Specify)*: ___Groundwater Transport

Potential Exposure Route(s)

___Soil Ingestion
___Direct Contact of Soil with Skin
___Inhalation of Airborne Particulates
___Inhalation of Volatiles
___Potable Water Use
___Use of Non-Potable Water
X__Other *(Specify)*: Direct contact of Groundwater with skin.

Potential Receptor(s)

___Resident
___Commercial Worker III*
___Commercial Worker IV*
___Industrial Worker
___Construction Worker
___Sensitive Habitat
___Structures
___Utilities

K00004489

4.1 CONFIRMATION OF EXPOSURE PATHWAYS AND SCENARIOS (Continued)

__Surface Waters ___Water Supply Wells ___Other *(Specify)*:_____

* As defined in Attachment No. 11 to the "Guidance Document for Risk-Based Corrective Action at Leaking Underground Storage Tanks"

C. For each item checked above, briefly describe the change and its potential impact on the selection of exposure route(s) and potential receptors for the Tier II or Tier III evaluation relative to the Tier I or Tier II evaluation included in the Initial Assessment Report (*use additional attached sheets, if necessary:*

_____
_____
_____
_____

NOTE: A pathway must include three necessary elements:

1) *a source (e.g., contamination);*
2) *a mechanism by which the contamination can become available to result in exposures at the source or via migration to other locations (e.g., free product and contaminated groundwater movement along a buried utility corridor); and*
3) *an individual who may come into contact, ingest, or inhale the contamination at the point of exposure (e.g., a utility maintenance worker digging to repair the line).*

Examples include:

1. *inhalation of soils by an on-site construction worker*
2. *impacted soils leaching into potable ground water and being used by a nearby resident for drinking and bathing*
3. *inhalation of vapors resulting from the migration of free product by a neighboring industrial worker*
4. *groundwater discharging to wetlands*

D. List the most plausible potential residential exposure pathway(s) for the site: Not applicable (N/A)

_____
_____

E. List the most plausible potential commercial exposure pathway(s) for the site: Not applicable (N/A)

_____
_____

F. List the most plausible potential industrial exposure pathway(s) for the site: An industrial pathway is not considered to be plausible since it is not anticipated that a potential receptor would come into contact with impacted groundwater at a depth of 17 feet below grade.

K00004490

4.1 CONFIRMATION OF EXPOSURE PATHWAYS AND SCENARIOS (Continued)

G. List the most plausible potential sensitive habitat exposure pathway(s) for the site: N/A

4.2 JUSTIFICATION FOR ALTERNATE ASSUMPTIONS OR MODELING PARAMETER SELECTIONS

A. Has a site-specific Tier II or Tier III evaluation been conducted for this Final Assessment Report?
___Yes X No

B. If "Yes", identify and justify where alternate assumptions or site-specific information was used in place of the default assumptions as defined in Attachment No. 11 of the "Guidance Document For Risk-Based Corrective Action At Leaking Underground Storage Tanks". *(If a Tier II evaluation was performed and described in the Initial Assessment Report, explicitly indicate where different assumptions or site-specific information were used in this Tier II or Tier III evaluation and why the change was justified.)*

ASSUMPTION	DEFAULT TIER I OR PRIOR TIER II SELECTION	ALTERNATE SELECTION	JUSTIFICATION OR BASIS FOR SUBSTITUTION *(Attach sheets if needed)*

C. Include the calculations supporting the development of the relevant Tier I RBSLs and Tier II or Tier III SSTLs as Attachment No. 23.

K00004491

4.3 IDENTIFICATION OF TIER I RISK-BASED SCREENING LEVELS OR TIER II / TIER III SITE-SPECIFIC TARGET LEVELS AND COMPARISON TO SITE DATA

A. For each contaminated medium, complete a Tier I RBSL / Tier II or Tier III SSTL Comparison Table (Attachment No. 5 for soil, Attachment No. 15 for groundwater and Attachment No. 21 for other media, as appropriate) by:

1. Checking the box associated with the applicable land use scenario;

2. Checking the boxes associated with the contaminants currently present at the site;

3. Entering the current maximum detected on-site or off-site concentration for each selected contaminant, along with the corresponding sample identification number and date of sampling;

4. Entering the lowest applicable RBSL value from the Tier I Look-Up Tables (*refer to Attachment No. 11 of the "Guidance Document For Risk-Based Corrective Action At Leaking Underground Storage Tanks"*) for the specific exposure routes present and environmental medium being considered or a corresponding optional Tier II SSTL. *[NOTE: Include the exposure route code that identifies the basis for each applicable criterion noted. For example, 12 ug/kg (A) for a cleanup goal based on the direct contact with soil exposure route, and 12 ug/kg (B) for a cleanup goal based on the soil leaching to groundwater exposure route*];

5. Comparing the contaminant-specific maximum concentration to the corresponding RBSL or SSTL criterion; and

6. Identifying and recording whether or not there is an excellence of the RBSL or the SSTL.

B. Tier I RBSL / Tier II or Tier III SSTL Comparison Tables are attached for the following *(Check all that apply):* See Attachment No. 15.

	ENVIRONMENTAL MEDIUM		
LAND USE	**SOIL**	**GROUNDWATER**	**OTHER** *(Specify)*
Residential			
Commercial III			
Commercial IV			
Industrial		X	

4.4 PROPOSED FOLLOW-UP ACTIVITIES

A. Based on the results of the Tier II or III evaluation, indicate the follow-up activities proposed for the site:

__ Site conditions do not exceed the relevant Tier I RBSLs or the calculated Tier II/ Tier III SSTLs do not rely on institutional controls	Proceed with site closure. **No further sections of Final Assessment Report need to be completed.**
X Site conditions exceed some or all of the relevant Tier I RBSLs or Tier II/Tier III SSTLs	Propose final corrective action to achieve Tier I RBSLs or Tier II/Tier III SSTLs. **Continue with Section 5.0.**

5.0 FEASIBILITY ANALYSIS

A. As appropriate, given the site conditions, complete the following comparison table of the potentially applicable corrective actions that were considered for the facility to reduce the volume, toxicity and/or mobility of the released regulated substances (*both on-site and off-site, as applicable*), noting the principal advantages and disadvantages of each listed alternative. *(Indicate explicitly, where appropriate, the relative estimated net present value cost of each alternative corrective action, its indicated effectiveness and feasibility, and the time needed to implement and complete the alternative. Attach additional sheets, if necessary.)*

CORRECTIVE ACTION ALTERNATIVES	PRINCIPAL ADVANTAGES	PRINCIPAL DISADVANTAGES
Pump/Treat Groundwater	In-place treatment could remediate groundwater to less than Tier 1 Residential Criteria.	Cost: $100,000 + Effective remediation may take up to 5 years to complete.
No Action (Quarterly groundwater monitoring)	Cost: $15,000 - $20,000	May lead to restricted closure for site.

K00004493

5.0 FEASIBILITY ANALYSIS (Continued)

B. Identify and briefly describe the preferred alternative. *(Attach additional sheets, if needed. Document the rationale for selecting this option by discussing how the selected remedial action will:*

- *Be protective of human health and the environment*
- *Comply with applicable or relevant and appropriate requirements*
- *Meet the requirements of the Risk-Based Corrective Action process*
- *Be a permanent solution (to the maximum extent possible)*
- *Be cost-effective)*

See Attachment No. 31

C. Has a pilot study been conducted to demonstrate the performance of any component or subsystem associated with the corrective action? ___Yes X No

D. If "Yes", describe the pilot study or testing that was conducted and present the results *(attach additional sheets, if necessary)*:

E. If a pilot study or testing was not conducted, explain why they were not needed: See Attachment No. 31

6.0 CORRECTIVE ACTION PLAN

6.1 DESCRIPTION OF THE CORRECTIVE ACTION

A. Describe the overall program and the primary components of the selected corrective action to be implemented at the facility (*attach additional sheets, if necessary*): The corrective action will consist of quarterly groundwater sampling for a period of 1 year at the existing monitoring wells. Groundwater samples will be evaluated for BTEX, PNA and dissolved lead. At the completion of the first year of quarterly monitoring, corrective action options will be reevaluated.

B. Include a schematic drawing of the remedial system to be employed (Attachment No. 24).

Not Applicable

K00004494

6.1 DESCRIPTION OF THE CORRECTIVE ACTION (Continued)

C. Include maps depicting capture zones/zones of influence, system layout, and anticipated system rates (Attachment No. 25). Not applicable

D. From Attachment No. 12 to the "Guidance Document for Risk-Based Corrective Action at Leaking Underground Storage Tanks" (*entitled "Guidance for Parameters, Analytical Methods, Sample Handling, Quality Control, and Cleanup Limits for Petroleum Hydrocarbon Releases"*), specify and justify the indicator parameters to be used (*if applicable*) to evaluate the implementation of the Corrective Action Plan. *(For each indicator parameter, identify the corresponding cleanup goal and the basis of the cleanup goal.)*

INDICATOR PARAMETER / Rationale for Selection	**IDENTIFIED CLEANUP GOAL**	**UNITS (ug/kg or ug/l)**	**BASIS OF THE CLEANUP GOAL**
Benzene	5	ug/l	Tier 1 Residential Health Based Criterion
Toluene	1,000	ug/l	Tier 1 Residential Health Based Criterion
Ethylbenzene	700	ug/l	Tier 1 Residential Health Based Criterion
Xylenes(s)	10,000	ug/l	Tier 1 Residential Health Based Criterion
Lead	4	ug/l	Tier 1 Residential Health Based Criterion

6.2 AMBIENT AIR QUALITY MONITORING ACTIVITIES

A. Will ambient air quality be monitored during the implementation of the corrective action?

___Yes X_No

B. If "No", explain why air monitoring is not needed: This area of impact is covered with 4 to 8 inches of Bituminous concrete, therefore volatilization of contaminants to the atmosphere is effectively mitigated. Also, the depth to impacted groundwater is 17 feet below grade.

K00004495

6.2 AMBIENT AIR QUALITY MONITORING ACTIVITIES (Continued)

C. If "Yes", describe the air quality monitoring to be conducted during the corrective action:

PARAMETERS TO BE MONITORED	ACTION LEVEL (Basis for Action Level)	MONITORING DEVICE TO BE USED	MONITORING FREQUENCY	PROCEDURE TO BE FOLLOWED IF ACTION LEVEL EXCEEDED

6.3 PLANS FOR OPERATION AND MAINTENANCE

A. Does any equipment or system associated with the corrective action need to be operated or maintained in order for the RBSLs or SSTLs to be met? ___Yes X No

(NOTE: The USTD may request that operation and maintenance information and procedures for this equipment or systems be developed as identified in Section 21309(2)(b).)

6.4 PLANS FOR PERFORMANCE MONITORING

A. Does meeting the cleanup goals depend on the performance of a treatment system or a system for controlling the further release or migration of contaminants? ___Yes X No
If "No", skip to Section 6.5.

B. Identify the environmental media to be monitored during the corrective action *(Check all that apply)*:

ENVIRONMENTAL MEDIA TO BE MONITORED	ON-SITE	OFF-SITE
Soil		
Groundwater		
Surface Water		
Other *(Specify)*:_____		

6.4 PLANS FOR PERFORMANCE MONITORING (Continued)

C. Provide the following information regarding the plan for performance monitoring which is included as Attachment No. 26:

REQUIRED INFORMATION OR CONTENTS	INCLUDED IN THE MONITORING PLAN? (Yes or No)	IDENTIFY SECTION(S) / PAGE(S) WITHIN THE MONITORING PLAN WHERE THE SPECIFIED INFORMATION IS PRESENTED
Location of monitoring points (Include a site map with locations marked) [324.21309a(2)(c)(i)]		
Monitoring frequency and schedule [324.21309a(2)(c)(iii)]		
Monitoring methodology and sample collection procedures [324.21309a(2)(c)(iv)]		
Monitoring parameters to be used as indicators, and the rationale for their selection [324.21309a(2)(c)(v)]		
Laboratory name, analytical method to be employed, method detection limits, and practical quantitation limits [324.21309a(2)(c)(vi)]		
Quality assurance/ quality control (QA/QC) procedures and measures to be employed [324.21309a(2)(c)(vii)]		
Description of how the monitoring data will be presented and analyzed to demonstrate the effectiveness of the corrective action [324.21309a(2)(c)(viii) and (xi)]		
Operation and maintenance provisions for the monitoring activities [324.21309a(2)(c)(x)]		
Any contingency planning to address ineffective monitoring [324.21309a(2)(c)(ix)]		
Other information requested by USTD [324.21309a(2)(c)(xii)] *(Specify, if applicable):*_____		

NOTE: The USTD must be notified immediately if ineffective corrective action is indicated by monitoring activities.

K00004497

6.5 SCHEDULE FOR IMPLEMENTATION OF THE CORRECTIVE ACTION

A. Attach the schedule for implementing the corrective action (*Include as Attachment No. 27. Reflect sufficient detail, a breakdown of the overall program into subcomponents, and the identification of key interim milestones (e.g., proposed submittal dates for Public Notice, Notice of Corrective Action, etc.) to demonstrate that the corrective action is implementable and has been adequately planned.)*

B. Date Confirmed Release Report Submitted: 10/19/94

C. Date Initial Assessment Report Submitted: See attachment No. 32 for chronological listing of report submittals. N/A

D. Date of Subsequent or Other Releases (*if appropriate*): / /

E. Proposed Corrective Action Start Date: 10/12/96

F. Dates of Key Interim Milestones (*Specify*): / /

Evaluation of Data	8 / 8 / 97
	/ /
	/ /
	/ /

G. Proposed Remedial Activity Completion Date: 8/18/97

H. Expected Performance Monitoring Completion Date: 8 / 8 / 97

6.6 NOTICES AND RESTRICTIONS

A. Will the corrective action plan require the use of institutional controls to restrict land use or resources?
___Yes X No

If "No", skip to Section 6.7; otherwise, answer questions "B" through "F" below.

B. What notices or restrictions will be filed based on the planned corrective action?
(Check all that apply)

___Public Notice [324.21309a(3)] ___Notice of Corrective Action [324.21310a(1)]

___Restrictive Covenant [324.21310a(2)] ___Other Mechanisms [324.21310a(3)]

C. Will USTD guidance be used to establish the form and content of the required notice(s) as provided in Attachment 20 of the "Guidance Document for Risk-Based Corrective Action at Leaking Underground Storage Tanks"? ___Yes ___No

K00004498

6.6 NOTICES AND RESTRICTIONS (Continued)

D. If "No", provide an explanation: _____

E. Describe all land use and/or resource limitations associated with the planned corrective action: _____

F. Identify the individuals or segments of the public to be provided notice of the proposed land use restrictions or limitations to be placed on resource use. (*Include a map showing location(s) of the individuals or segments of the public to be notified, if appropriate, as Attachment No. 28*): _____

6.7 FINANCIAL ASSURANCE MECHANISM

A. Has a financial assurance agreement, as provided for in R29.2161 to R29.2169 of the Michigan Administrative Code, been included for approval by the USTD to assure the effectiveness and integrity of the corrective action? X Yes ___No

B. If "No", provide an explanation: _____

If "Yes", provide the following:

C. Date the financial assurance mechanism was submitted to USTD: 9 / 25 / 96

D. Amount of the financial assurance mechanism: $ 1,000,000

E. Coverage of the financial assurance mechanism *(check all that apply)*:

X Monitoring
X Oversight
X Operation and Maintenance
X Other (*Specify*): See Attachment No. 33 for Copy of Insurance Certificate

K00004499

6.8 PERMITTING AND APPROVAL REQUIREMENTS

A. Will the corrective action result in any discharge during its implementation?

___Yes X No

If "No", no more information is necessary; if "Yes", continue with questions "B" and "C".

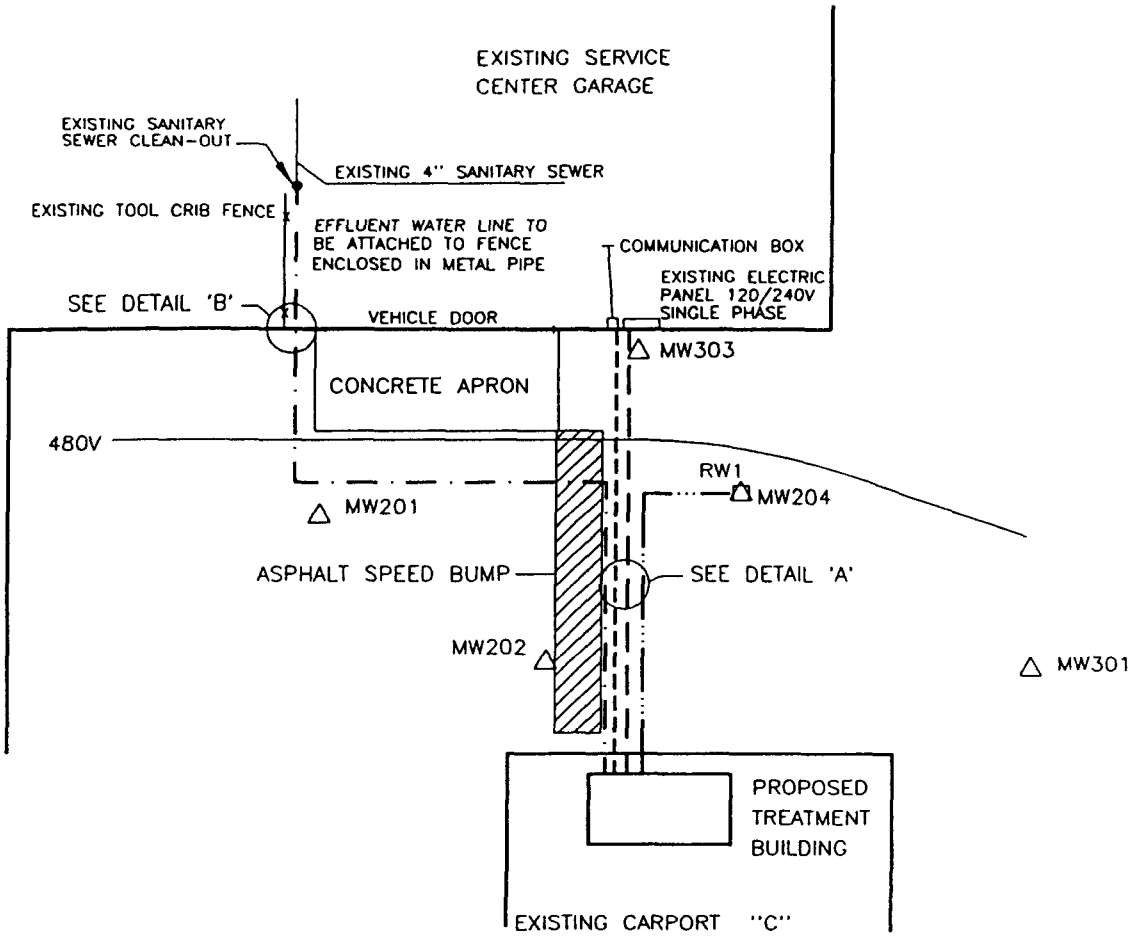
B. Describe the activity(s) representing the source of the discharge: _____

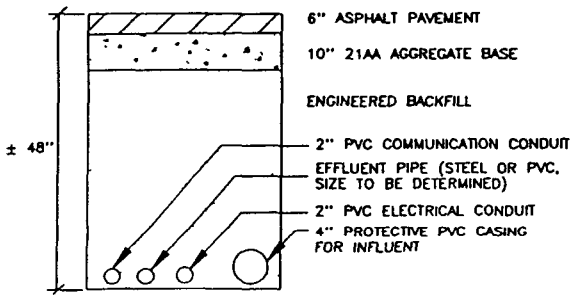
C. Provide the following information regarding the planned discharges:

SOURCE OF THE DISCHARGE	LOCATION OF THE DISCHARGE POINT (Attach a Site Map, if applicable)	WILL TREATMENT BE PERFORMED PRIOR TO DISCHARGE? IF SO, DESCRIBE.	ARE PERMITS REQUIRED FOR DISCHARGE? IF SO, DESCRIBE WHAT STEPS HAVE BEEN TAKEN TO OBTAIN THEM.

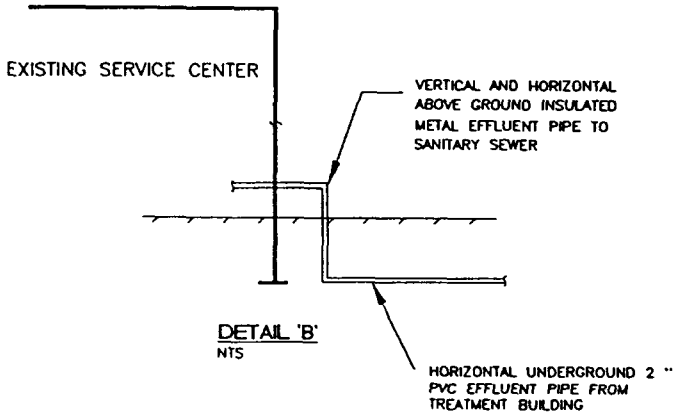
ATTACHMENT NO. 2

FREE PRODUCT RECOVERY SYSTEM SCHEMATIC





DETAIL 'A'
NTS



DETAIL 'B'
NTS

LEGEND

- △ EXISTING MONITORING WELL
- □ RECOVERY WELL
- INFLUENT WATER LINE TO TREATMENT BLDG.
- EFFLUENT WATER LINE TO 4" SANITARY SEWER
- ELECTRICAL FEED TO TREATMENT BLDG.
- COMMUNICATION CONDUIT
- 480V EXISTING 480V UNDERGROUND ELECTRICAL LINE

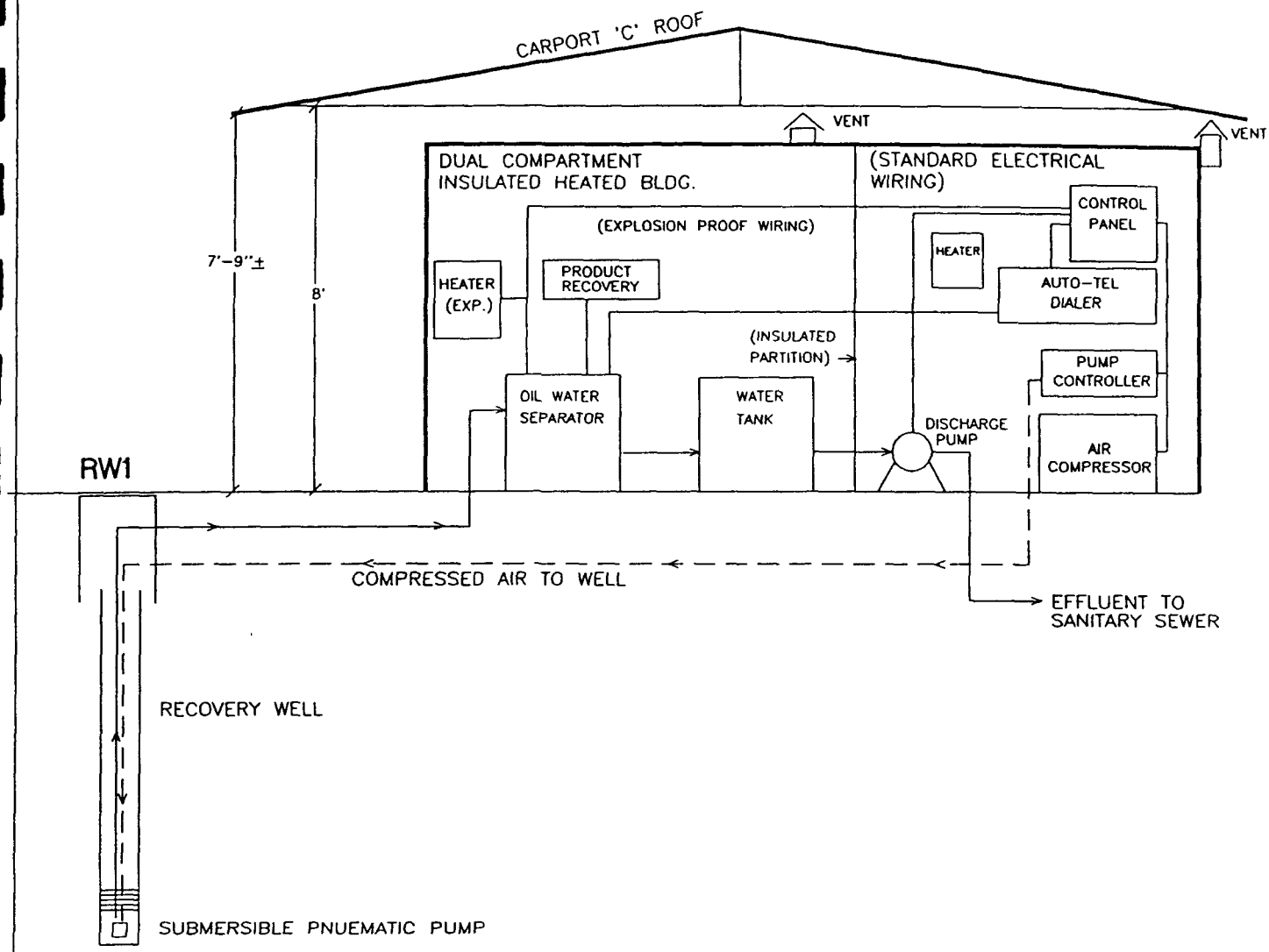
NORTH

SME 43980 PLYMOUTH OAKS BOULEVARD PLYMOUTH, MICHIGAN 48170 (313) 454-9900	BAY CITY KALAMAZOO LANSING PLYMOUTH TOLEDO	DATE 3-25-96 DRAWN BY ARR SCALE 1" = 20' JOB PE 21914	FREE PRODUCT RECOVERY INSTALLATION DIAGRAM CONSUMERS POWER COMPANY KALAMAZOO SERVICE CENTER KALAMAZOO, MICHIGAN

FILE NAME H.21914-19

Figure No. 2-A

K00004502

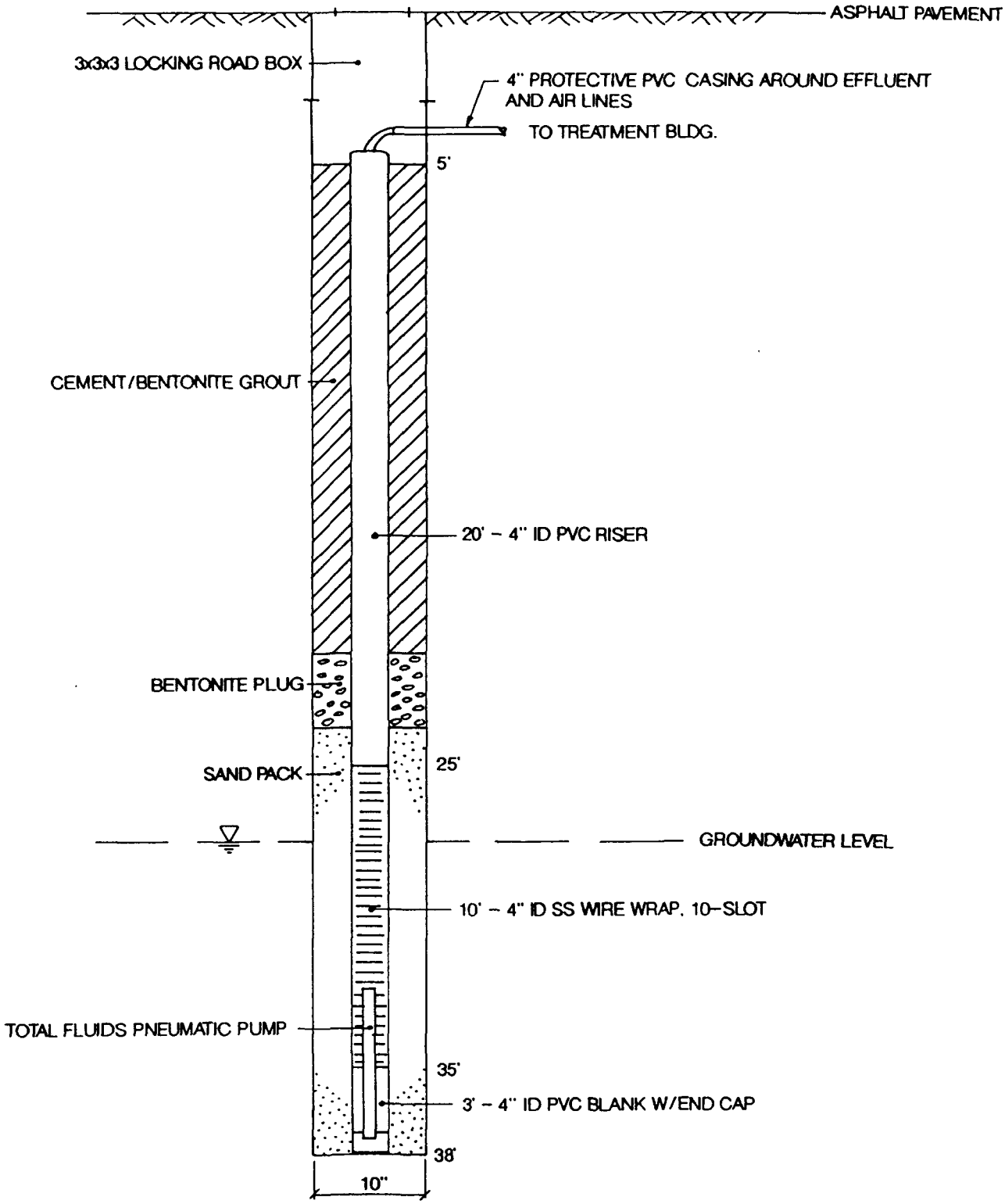


43980 PLYMOUTH OAKS BOULEVARD PLYMOUTH, MICHIGAN 48170 (313) 454-9900	BAY CITY KALAMAZOO LANSING PLYMOUTH TOLEDO	DATE 3-22-96 DRAWN BY ARR SCALE NTS JOB PE 21914	FREE PRODUCT RECOVERY SYSTEM DIAGRAM CONSUMERS POWER COMPANY KALAMAZOO SERVICE CENTER KALAMAZOO, MICHIGAN

FILE NAME H:21914-20

Figure No. 2-B

K00004503



Date 3-26-96	BAY CITY KALAMAZOO LANSING PLYMOUTH TOLEDO	soil and materials engineers, inc	RECOVERY WELL DIAGRAM CONSUMERS POWER COMPANY KALAMAZOO SERVICE CENTER KALAMAZOO, MICHIGAN
Drawn By ARR			
Scale 1" = 5'V			
Job PE 21914			

DWG. NO. 21914-21

K00004504

Figure No. 2-C

ATTACHMENT NO. 3

FIELD SCREENING RESULTS TABLE FOR SOILS

FINAL ASSESSMENT REPORT - ATTACHMENT NO. 3
FIELD SCREENING RESULTS - SOIL

ATTACHMENT NO. 3
FIELD SCREENING RESULTS - SOIL
FACILITY NAME CPCO - KALAMAZOO
FACILITY NUMBER

Sample ID	GP1-S1		GP1-S2		GP1-S3		GP1-S4		GP2-1	
Sample Depth (feet BGS)	3-5		8-10		13-15		18-20		8-10	
Date Collected	7-25-95		7-25-95		7-25-95		7-25-95		7-25-95	
Date Analyzed										
Collection Method*	GP		GP		GP		GP		GP	
Screening Instrument	PID/ Micro-Tip		PID/ Micro-Tip		PID/ Micro-Tip		PID/ Micro-Tip		PID/ Micro-Tip	
CONSTITUENT	Result	D.L	Result	D.L	Result	D.L	Result	D.L	Result	D.L
Total Organics (ppm)	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Benzene (ppb)										
Ethylbenzene (ppb)										
Toluene (ppb)										
Total Xylenes (ppb)										
Other *(Specify)*										

BGS = Below Ground Surface
* Collection Method Codes (List all that apply); Grab Samples (GS), Split Spoon (SS), Hand Auger (HA), Geoprobe (GP), Continuous Corer (CC), Soil Gas (SG), Cone Penetrometer (CP), HydropuNch (HP)
*If Other (OT), specify here:*_____
D.L = Detection Limit

K00004506

FINAL ASSESSMENT REPORT - ATTACHMENT NO. 3
FIELD SCREENING RESULTS - SOIL

ATTACHMENT NO. 3
FIELD SCREENING RESULTS - SOIL
FACILITY NAME CPCO - KALAMAZOO
FACILITY NUMBER

Sample ID	GP2-S2		GP2-S3		GP3-S1		GP3-S2		GP3-S3	
Sample Depth (feet BGS)	13-15		18-20		8-10		18-20		21-23	
Date Collected	7-25-95		7-25-95		7-25-95		7-25-95		7-25-95	
Date Analyzed										
Collection Method*	GP		GP		GP		GP		GP	
Screening Instrument	PID/ Micro-Tip		PID/ Micro-Tip		PID/ Micro-Tip		PID/ Micro-Tip		PID/ Micro-Tip	
CONSTITUENT	Result	D.L	Result	D.L	Result	D.L	Result	D.L	Result	D.L
Total Organics (ppm)	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Benzene (ppb)										
Ethylbenzene (ppb)										
Toluene (ppb)										
Total Xylenes (ppb)										
Other *(Specify)*										

BGS = Below Ground Surface
* Collection Method Codes (List all that apply); Grab Samples (GS), Split Spoon (SS), Hand Auger (HA), Geoprobe (GP), Continuous Corer (CC), Soil Gas (SG), Cone Penetrometer (CP), HydropuNch (HP)
*If Other (OT), specify here:*_____
D.L = Detection Limit

K0004507

ATTACHMENT NO. 4

LABORATORY RESULTS TABLE FOR SOILS

MICHIGAN DEPARMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 4
LABORATORY RESULTS SOIL
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	GP1-S4		GP2-S2							
Sample Depth (feet BGS)	18-20		13-15							
Date Collected	7/25/96		7/25/96							
Date Extracted	-		-							
Date Analyzed	7/31/96		7/31/96							
Analytical Method No.	8021A		8021A							
Collection Method*	GP		GP							
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	<10	10	<10	10						
Toluene	<10	10	<10	10						
Ethylbenzene	<10	10	<10	10						
Total Xylenes	<30	30	<30	30						
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	GP1-S4		GP2-S2							
Sample Depth (feet BGS)	18-20		13-15							
Date Collected	7/25/96		7/25/96							
Date Extracted	-		-							
Date Analyzed	8/1/96		8/1/96							
Analytical Method No.	8270A		8270A							
Collection Method*	GP		GP							
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<330	330	<330	330						
Acenaphthylene	<330	330	<330	330						
Anthracene	<330	330	<330	330						
Benzo(a)anthracene	<330	330	<330	330						
Benzo(a)pyrene	<330	330	<330	330						
Benzo(b)fluoranthene	<330	330	<330	330						
Benzo(g,h,i)perylene	<330	330	<330	330						
Benzo(k)fluoranthene	<330	330	<330	330						

BGS=Below Ground Surface
*Collection Method Codes (list all that apply); Grab Sample (GS), Split Spoon(SS), Hand Auger(HA), Geoprobe(GP), Continuous Corer (CC), Soil Gas (SG), Cone Penetrometer (CP), Hydropunch(HP)
*If Other (OT), Specify here:*_____
MDL= Method Detection Limit

K00004509

ATTACHMENT NO. 4
LABORATORY RESULTS SOIL
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	GP1-S4		GP2-S2							
Sample Depth (feet BGS)	18-20		13-15							
Date Collected	7/25/96		7/25/96							
Date Extracted	-		-							
Date Analyzed	8/1/96		8/1/96							
Analytical Method No.	8270A		8270A							
Collection Method*	GP		GP							
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Chrysene	<330	330	<330	330						
Dibenzo(a,h)anthracene	<330	330	<330	330						
Fluoranthene	<330	330	<330	330						
Fluorene	<330	330	<330	330						
Indeno(1,2,3- cd)pyrene	<330	330	<330	330						
Naphthalene	<330	330	<330	330						
Phenanthrene	<330	330	<330	330						
Pyrene	<330	330	<330	330						
METALS										
Sample ID	GP1-S4		GP2-S2							
Sample Depth (feet BGS)	18-20		13-15							
Date Collected	7/25/96		7/25/96							
Date Extracted	-		-							
Date Analyzed	7/29/96		7/29/96							
Analytical Method No.	7421		7421							
Collection Method*	GP		GP							
CONSTITUENT (ug/kg)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	5,800	1,000	3,700	1,000						

BGS=Below Ground Surface
*Collection Method Codes (list all that apply); Grab Sample (GS), Split Spoon(SS), Hand Auger(HA), Geoprobe(GP), Continuous Corer (CC), Soil Gas (SG), Cone Penetrometer (CP), Hydropunch(HP)
*If Other (OT), Specify here:*_____
MDL= Method Detection Limit

K00004510

ATTACHMENT NO. 7

SITE MAPS SHOWING VERTICAL AND HORIZONTAL DISTRIBUTION OF CONTAMINANTS IN SOIL

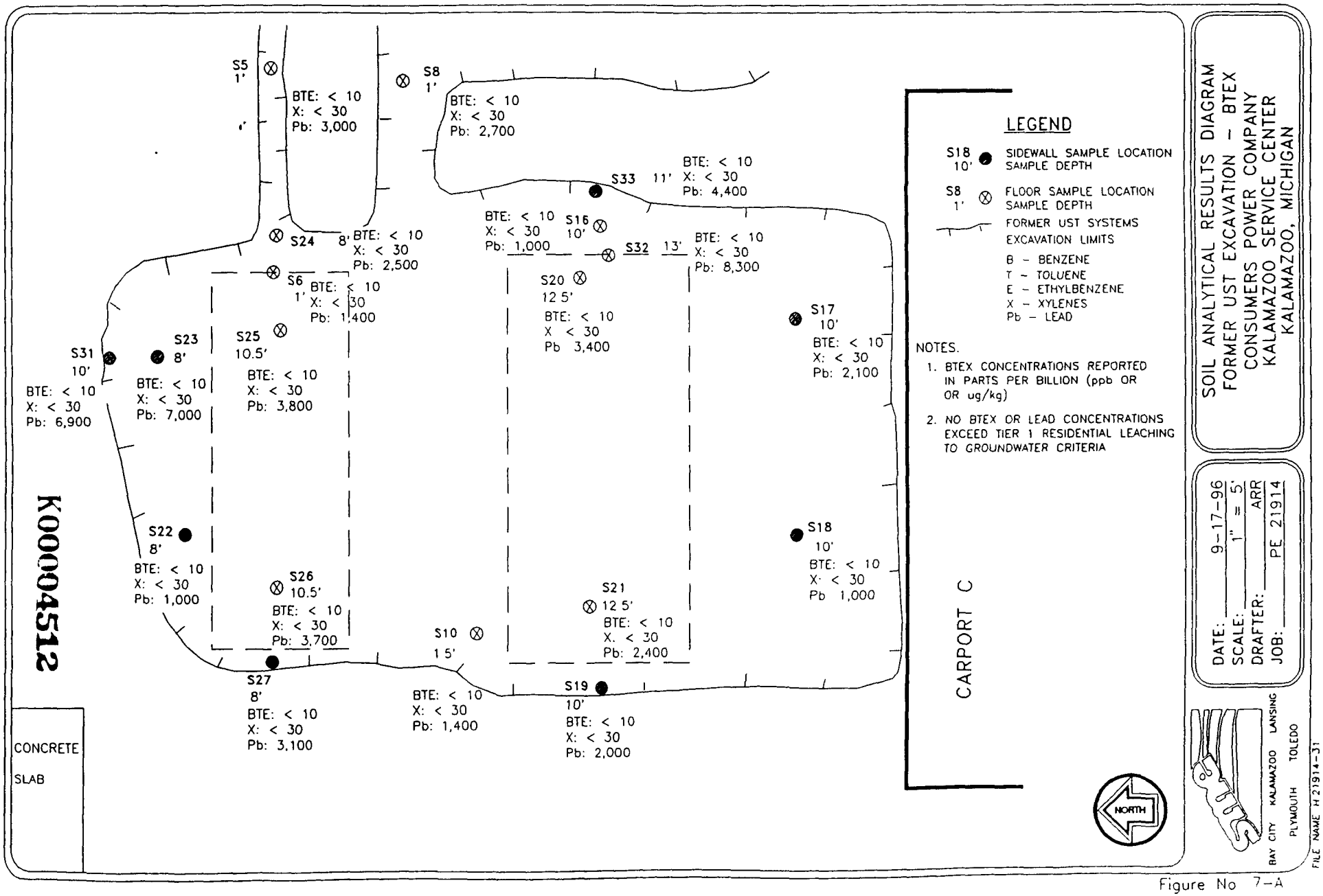
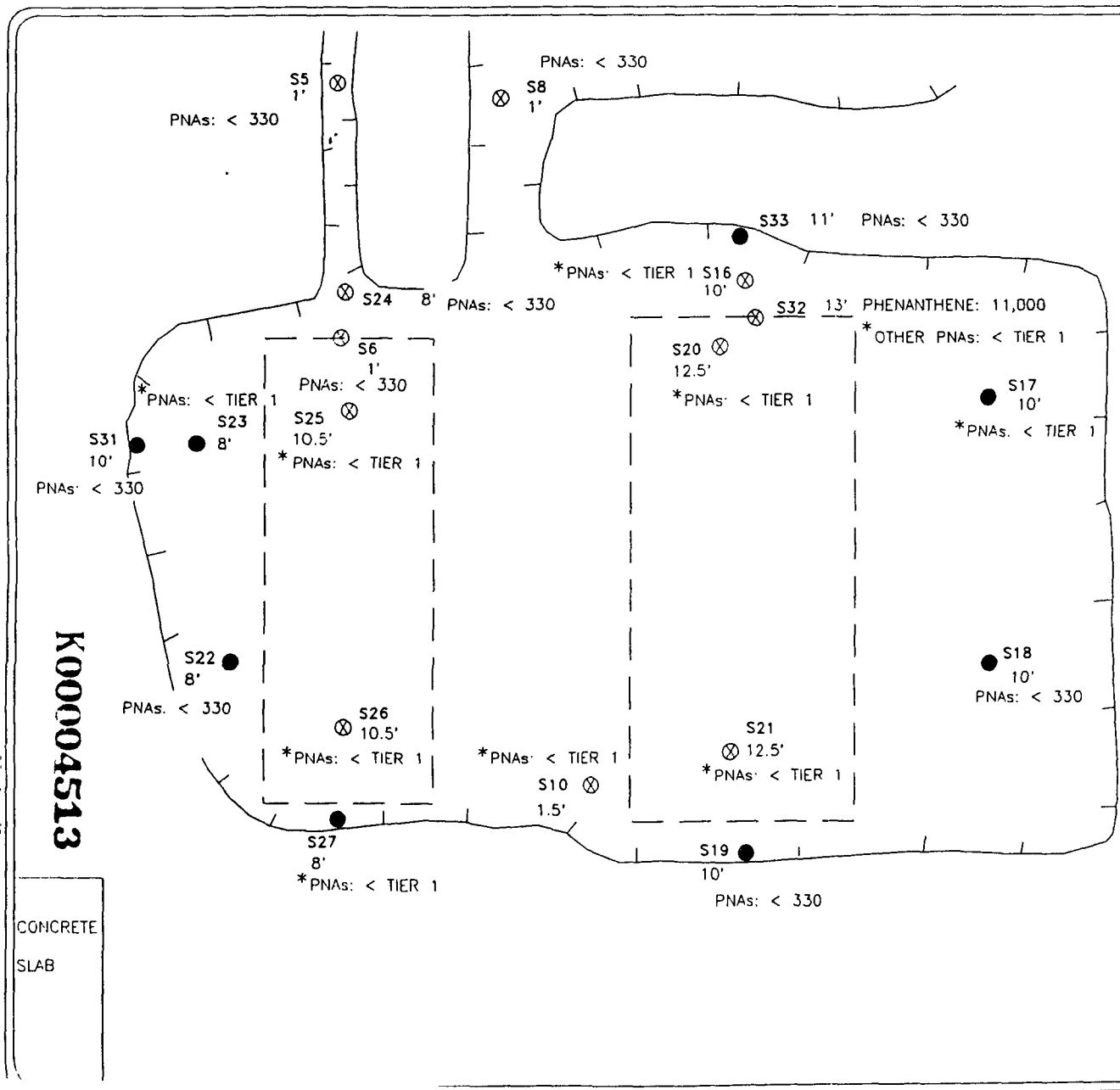

S5
1'
BTE: < 10
X: < 30
Pb: 3,000
S8
1'
BTE: < 10
X: < 30
Pb: 2,700
S33
11'
BTE: < 10
X: < 30
Pb: 4,400
S24
8'
BTE: < 10
X: < 30
Pb: 2,500
BTE: < 10
X: < 30
Pb: 1,000
S16
10'
S32
13'
BTE: < 10
X: < 30
Pb: 8,300
S6
1'
BTE: < 10
X: < 30
Pb: 1,400
S20
12 5'
BTE: < 10
X < 30
Pb 3,400
S17
10'
BTE: < 10
X: < 30
Pb: 2,100
S31
10'
BTE: < 10
X: < 30
Pb: 6,900
S23
8'
BTE: < 10
X: < 30
Pb: 7,000
S25
10.5'
BTE: < 10
X: < 30
Pb: 3,800
S22
8'
BTE: < 10
X: < 30
Pb: 1,000
S26
10.5'
BTE: < 10
X: < 30
Pb: 3,700
S21
12 5'
BTE: < 10
X. < 30
Pb: 2,400
S18
10'
BTE: < 10
X· < 30
Pb 1,000
S10
1 5'
BTE: < 10
X: < 30
Pb: 1,400
S27
8'
BTE: < 10
X: < 30
Pb: 3,100
S19
10'
BTE: < 10
X: < 30
Pb: 2,000
CONCRETE
SLAB
K00004512
CARPORT C
LEGEND
S18 10' SIDEWALL SAMPLE LOCATION SAMPLE DEPTH
S8 1' FLOOR SAMPLE LOCATION SAMPLE DEPTH
FORMER UST SYSTEMS EXCAVATION LIMITS
B - BENZENE
T - TOLUENE
E - ETHYLBENZENE
X - XYLENES
Pb - LEAD
NOTES.
1. BTEX CONCENTRATIONS REPORTED IN PARTS PER BILLION (ppb OR OR ug/kg)
2. NO BTEX OR LEAD CONCENTRATIONS EXCEED TIER 1 RESIDENTIAL LEACHING TO GROUNDWATER CRITERIA
NORTH
SOIL ANALYTICAL RESULTS DIAGRAM
FORMER UST EXCAVATION - BTEX
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN
DATE: 9-17-96
SCALE: 1" = 5'
DRAFTER: ARR
JOB: PE 21914
BAY CITY KALAMAZOO LANSING
PLYMOUTH TOLEDO
FILE NAME H21914-31

Figure No 7-A



LEGEND

S18 10' ● SIDEWALL SAMPLE LOCATION SAMPLE DEPTH

S 8 1 ⊗ FLOOR SAMPLE LOCATION SAMPLE DEPTH

FORMER UST SYSTEMS EXCAVATION LIMITS

PNAs – POLYNUCLEAR AEROMATIC HYDROCARBONS

NOTES:

1. BTEX CONCENTRATIONS REPORTED IN PARTS PER BILLION (ppb OR OR ug/kg)
2. * = PNAs CONCENTRATIONS EITHER LESS THAN MDL (330 ppb) OR LESS THAN TIER 1 RESIDENTIAL LEACHING TO GROUNDWATER CRITERIA.
3. SHADING INDICATES COMPOUND EXCEEDED TIER 1 RESIDENTIAL LEACHING TO GROUNDWATER CRITERIA.

SOIL ANALYTICAL RESULTS DIAGRAM
FORMER UST EXCAVATION – PNAs
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN

DATE: 9-17-96
SCALE: 1" = 5'
DRAFTER: ARR
JOB: PE 21914

BAY CITY KALAMAZOO LANSING
PLYMOUTH TOLEDO

FILE NAME H 21914-31

K00004513

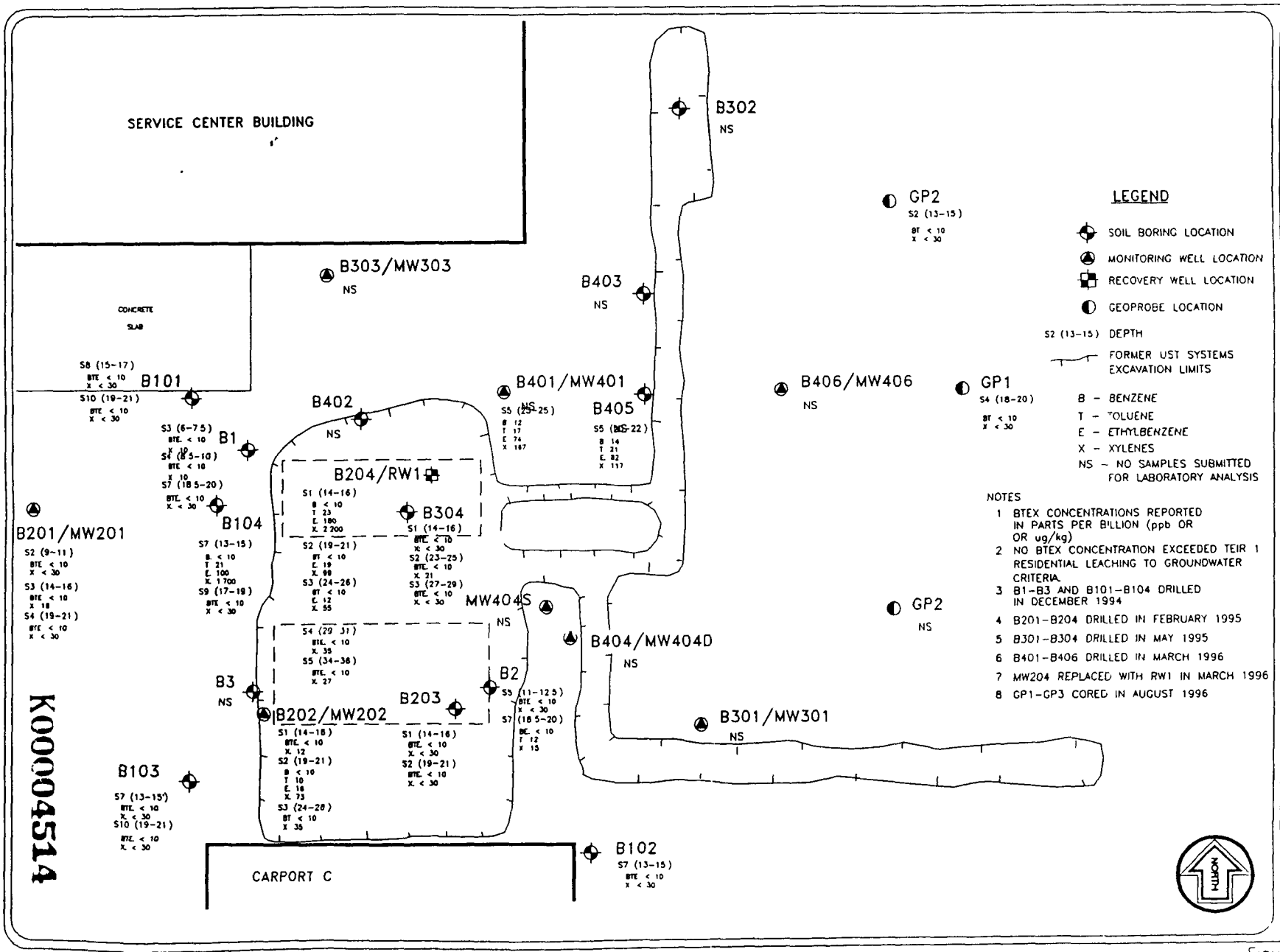
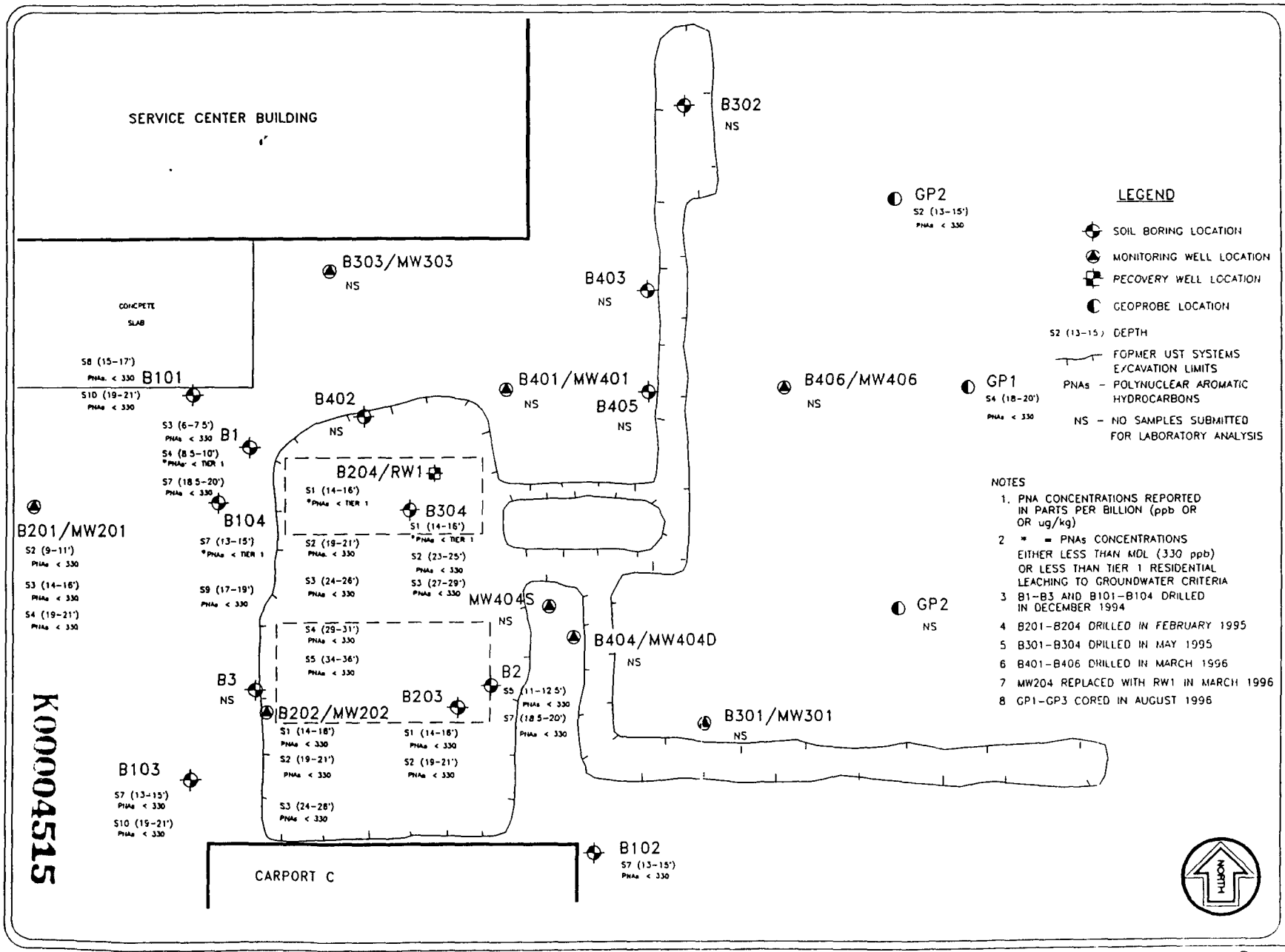

SERVICE CENTER BUILDING
CONCRETE SLAB
CARPORT C
B302
NS
B303/MW303
NS
B403
NS
GP2
S2 (13-15)
BT < 10
X < 30
B401/MW401
NS
S5 (29-25)
B 12
T 17
E 74
X 187
B405
S5 (BG-22)
B 14
T 21
E 82
X 117
B406/MW406
NS
GP1
S4 (18-20)
BT < 10
X < 30
GP2
NS
B402
NS
B101
S8 (15-17)
BTE < 10
X < 30
S10 (19-21)
BTE < 10
X < 30
S3 (6-7.5)
BTE < 10
X 10
S4 (8.5-10)
BTE < 10
X 10
S7 (18.5-20)
BTE < 10
X < 30
B1
B104
S7 (13-15)
B < 10
T 21
E 100
X 1700
S9 (17-19)
BTE < 10
X < 30
B201/MW201
S2 (9-11)
BTE < 10
X < 30
S3 (14-16)
BTE < 10
X 18
S4 (19-21)
BTE < 10
X < 30
B204/RW1
S1 (14-16)
B < 10
T 23
E 180
X 2 200
S2 (19-21)
BT < 10
E 19
X 99
S3 (24-26)
BT < 10
E 12
X 55
B304
S1 (14-16)
BTE < 10
X < 30
S2 (23-25)
BTE < 10
X 21
S3 (27-29)
BTE < 10
X < 30
S4 (29-31)
BTE < 10
X 35
S5 (34-36)
BTE < 10
X 27
MW404S
NS
B404/MW404D
NS
B3
NS
B2
S5 (11-12.5)
BTE < 10
X < 30
S7 (18.5-20)
BE < 10
T 12
X 15
B203
S1 (14-16)
BTE < 10
X < 30
S2 (19-21)
BTE < 10
X < 30
B202/MW202
S1 (14-16)
BTE < 10
X 12
S2 (19-21)
B < 10
T 10
E 16
X 73
S3 (24-26)
BT < 10
X 35
B301/MW301
NS
B103
S7 (13-15)
BTE < 10
X < 30
S10 (19-21)
BTE < 10
X < 30
B102
S7 (13-15)
BTE < 10
X < 30
NORTH
LEGEND
SOIL BORING LOCATION
MONITORING WELL LOCATION
RECOVERY WELL LOCATION
GEOPROBE LOCATION
S2 (13-15) DEPTH
FORMER UST SYSTEMS EXCAVATION LIMITS
B - BENZENE
T - TOLUENE
E - ETHYLBENZENE
X - XYLENES
NS - NO SAMPLES SUBMITTED FOR LABORATORY ANALYSIS
NOTES
1 BTEX CONCENTRATIONS REPORTED IN PARTS PER BILLION (ppb OR OR ug/kg)
2 NO BTEX CONCENTRATION EXCEEDED TEIR 1 RESIDENTIAL LEACHING TO GROUNDWATER CRITERIA
3 B1-B3 AND B101-B104 DRILLED IN DECEMBER 1994
4 B201-B204 DRILLED IN FEBRUARY 1995
5 B301-B304 DRILLED IN MAY 1995
6 B401-B406 DRILLED IN MARCH 1996
7 MW204 REPLACED WITH RW1 IN MARCH 1996
8 GP1-GP3 CORED IN AUGUST 1996
SOIL ANALYTICAL RESULTS DIAGRAM
SOIL BORING - BTEX
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN
DATE: 8-22-96
SCALE 1 = 10
DRAFTER ARR
JOB PE 21914
BAY CITY KALAMAZOO LANSING
PLYMOUTH TOLEDO
FILE NAME H 21914-32
K00004514

Figure No 7-C



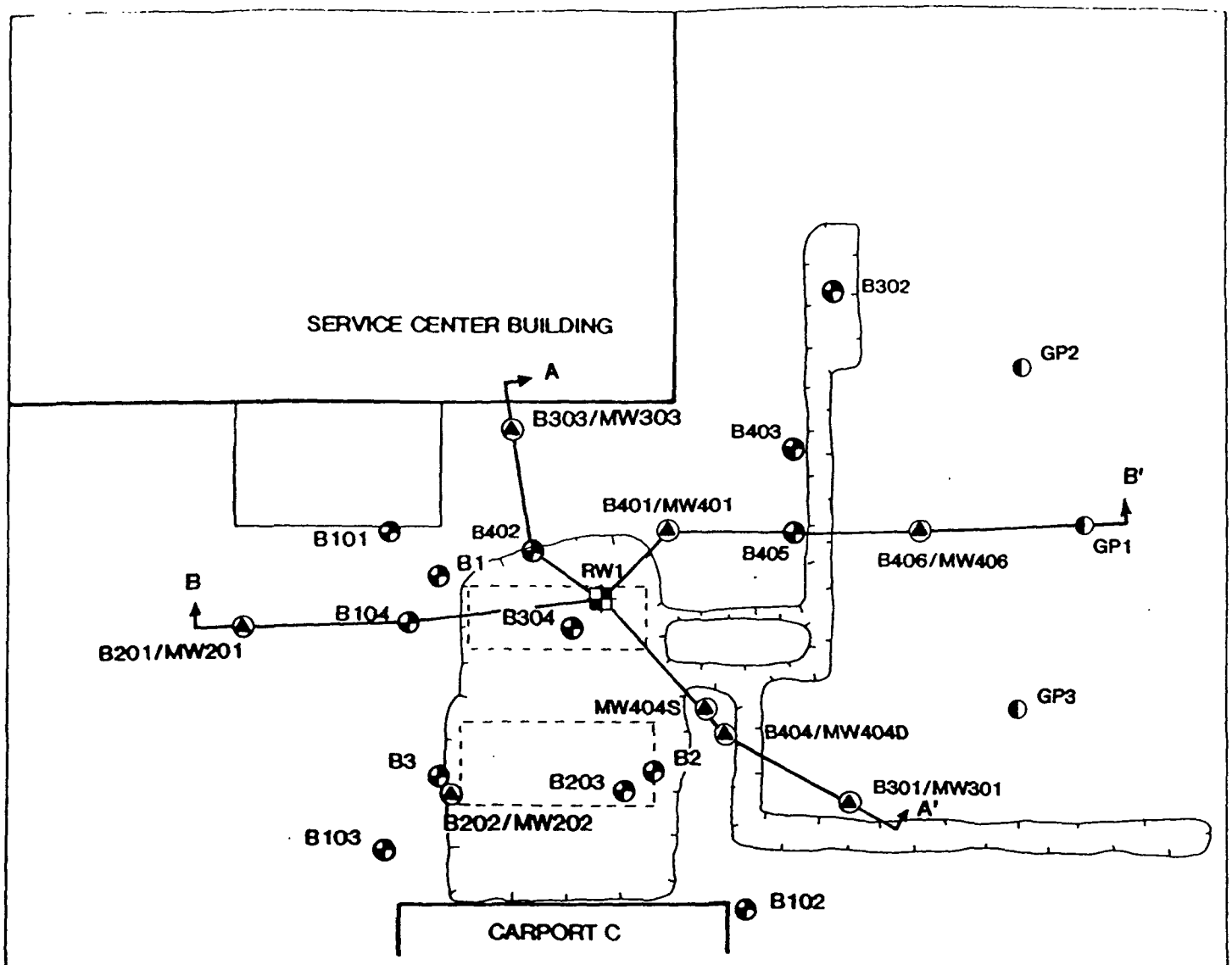
K00004515

Figure 11b 7-D

ATTACHMENT NO. 8

CROSS SECTIONS

K00004516



LEGEND

- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- RECOVERY WELL LOCATION
- FORMER UST SYSTEM EXCAVATION LIMITS
- CROSS-SECTION LOCATION
- GEOPROBE LOCATION

NOTES:

1. B1 – B3 AND B101– B104 DRILLED IN DECEMBER 1994.
2. B201 – B204 DRILLED IN FEBRUARY 1995.
3. B301 – B304 DRILLED IN MAY 1995.
4. B401 – B406 DRILLED IN MARCH 1996.
5. MW204 REPLACED WITH RW1 IN MARCH 1996.
6. GP1 – GP3 CORED IN AUGUST 1996.

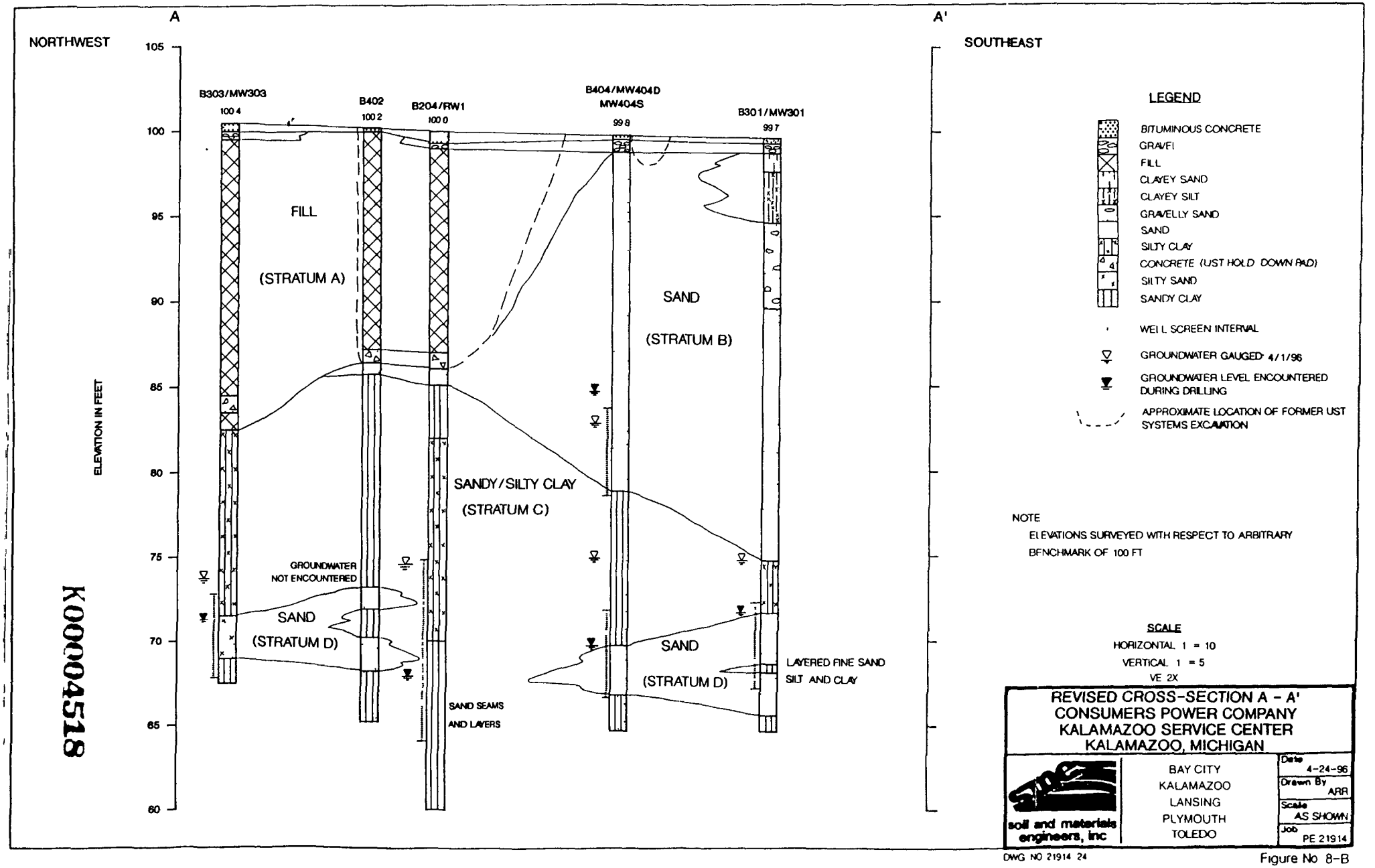
NORTH

Date 8-23-96	BAY CITY	soil and materials engineers, inc	CROSS-SECTION LOCATION DIAGRAM
Drawn By ARR	KALAMAZOO		CONSUMERS POWER COMPANY
Scale 1" = 20'	LANSING		KALAMAZOO SERVICE CENTER
Job PE 21914	PLYMOUTH		KALAMAZOO, MICHIGAN
	TOLEDO		

DWG NO 21914-33

Figure No. 8-A

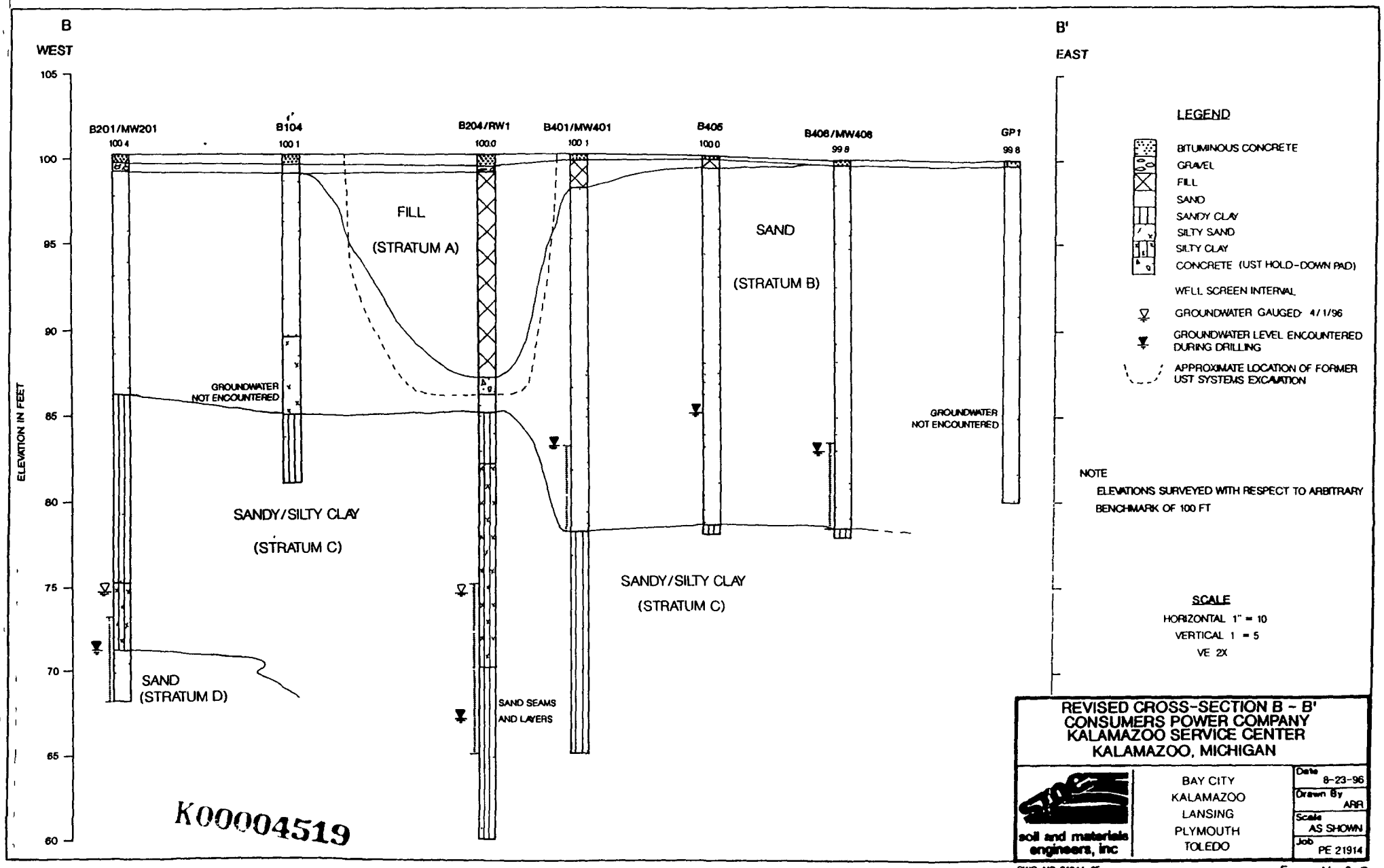
K00004517



DWG NO 21914 24

Figure No 8-B

K00004518


B
WEST
B'
EAST
ELEVATION IN FEET
105
100
95
90
85
80
75
70
65
60
B201/MW201
100.4
B104
100.1
B204/RW1
100.0
B401/MW401
100.1
B406
100.0
B408/MW408
99.8
GP1
99.8
FILL
(STRATUM A)
SAND
(STRATUM B)
GROUNDWATER
NOT ENCOUNTERED
GROUNDWATER
NOT ENCOUNTERED
SANDY/SILTY CLAY
(STRATUM C)
SANDY/SILTY CLAY
(STRATUM C)
SAND
(STRATUM D)
SAND SEAMS
AND LAYERS
LEGEND
BITUMINOUS CONCRETE
GRAVEL
FILL
SAND
SANDY CLAY
SILTY SAND
SILTY CLAY
CONCRETE (UST HOLD-DOWN PAD)
WELL SCREEN INTERVAL
GROUNDWATER GAUGED 4/1/96
GROUNDWATER LEVEL ENCOUNTERED DURING DRILLING
APPROXIMATE LOCATION OF FORMER UST SYSTEMS EXCAVATION
NOTE
ELEVATIONS SURVEYED WITH RESPECT TO ARBITRARY BENCHMARK OF 100 FT
SCALE
HORIZONTAL 1" = 10
VERTICAL 1 = 5
VE 2X
REVISED CROSS-SECTION B - B'
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN
soil and materials engineers, inc
BAY CITY
KALAMAZOO
LANSING
PLYMOUTH
TOLEDO
Date 8-23-96
Drawn By ARR
Scale AS SHOWN
Job PE 21914
DWG NO 21914-25
Figure No 8-C

K00004519

ATTACHMENT NOS. 9 AND 10

SOIL BORING LOGS WITH WELL CONSTRUCTION SUMMARIES

K00004520

SOIL AND MATERIALS ENGINEERS, INC.

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER:

A/E:
BY: DJG DATE: 12/8/94
JOB NUMBER: PE21914

BORING 1
SHEET: 1

WELL DIAGRAM

DRILLER: GREAT LAKES RIG:

DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (mg/kg,ppm)

GROUND SURFACE ELEVATION =

LEGEND: O- HNU

5 Inches of Bituminous Concrete

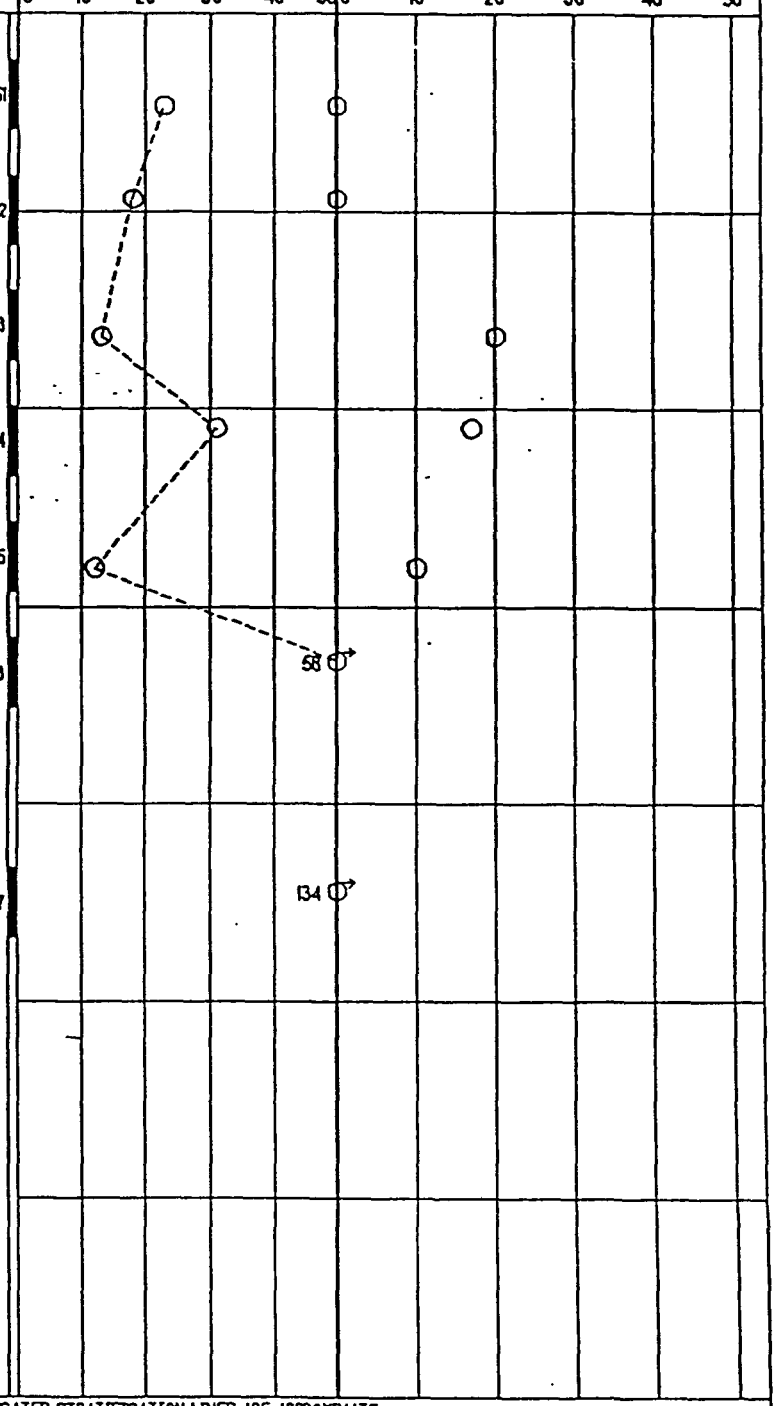
7 Inches of Mixed Sand & Gravel Base

Fine Sand-Trace Silt & Gravel-Brown (Fill)

Sandy Clay-Trace Silt & Gravel-Brown (CL)

Note:

1. Borehole backfilled with bentonite chips.



WATER LEVEL OBSERVATIONS

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004521

SOIL AND MATERIALS ENGINEERS, INC.

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER:

A/E:
BY: DJG DATE: 12/8/94
JOB NUMBER: PE21914

BORING 2
SHEET: 1

WELL DIAGRAM

DRILLER: GREAT LAKES | RIG:

DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (mg/kg,ppm)

GROUND SURFACE ELEVATION =

LEGEND: O- HNU

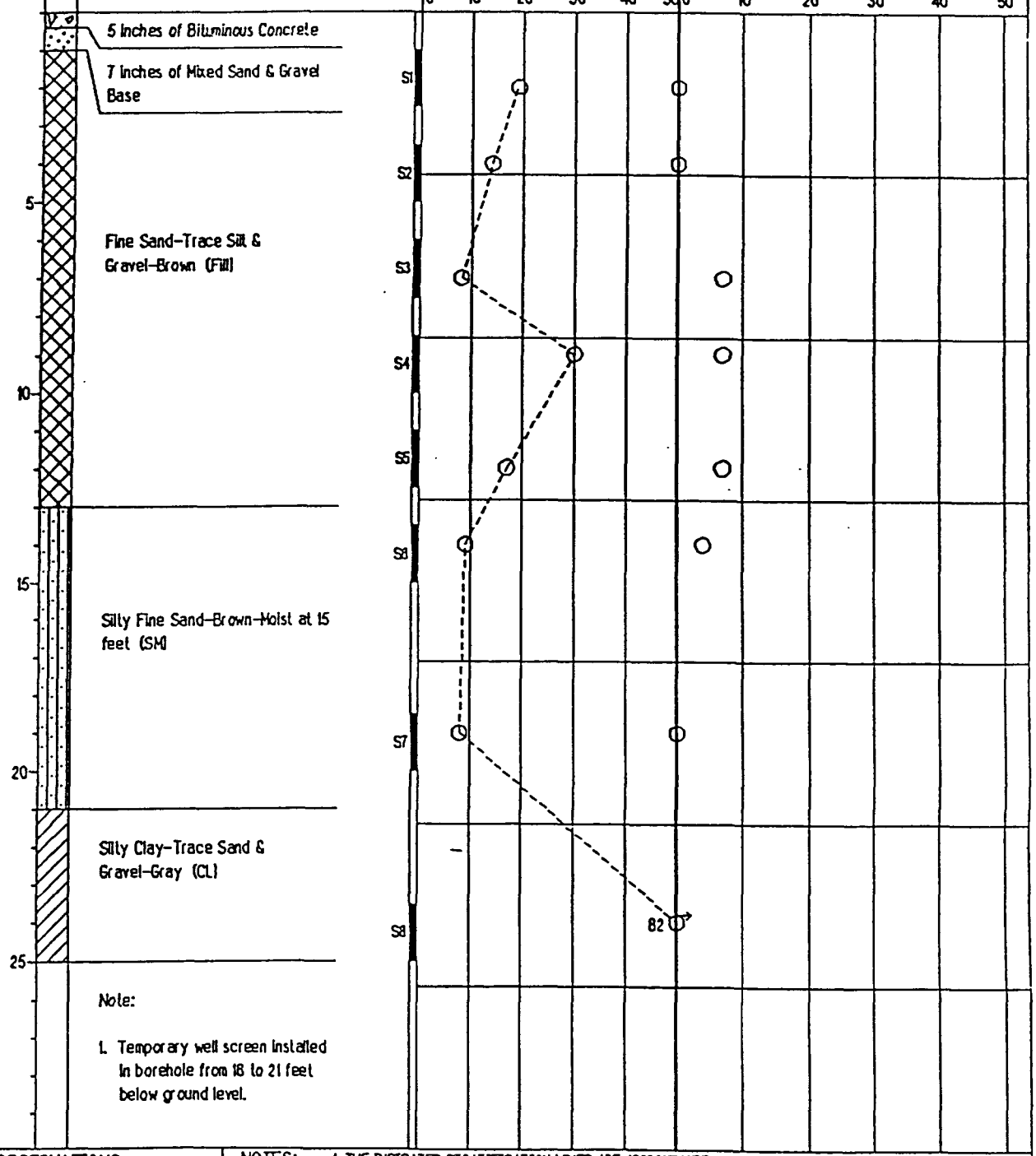
5 Inches of Bituminous Concrete

7 Inches of Mixed Sand & Gravel Base

Fine Sand-Trace Silt & Gravel-Brown (Fill)

Silty Fine Sand-Brown-Moist at 15 feet (SM)

Silty Clay-Trace Sand & Gravel-Gray (CL)



Note:

1. Temporary well screen installed in borehole from 18 to 21 feet below ground level.

WATER LEVEL OBSERVATIONS

▼ GROUNDWATER ENCOUNTERED DURING DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004522

SOIL AND MATERIALS ENGINEERS, INC

NAME: CPCO KALAMAZOO SERVICE CENTER
LOCATION: KALAMAZOO, MICHIGAN
ER:

A/E:
BY: DJG DATE: 12/8/94
JOB NUMBER: PE21914

BORING 3
SHEET: 1

WELL DIAGRAM

DRILLER: GREAT LAKES | RIG:

DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (mg/kg,ppm)

GROUND SURFACE ELEVATION =

LEGEND: O- HNU

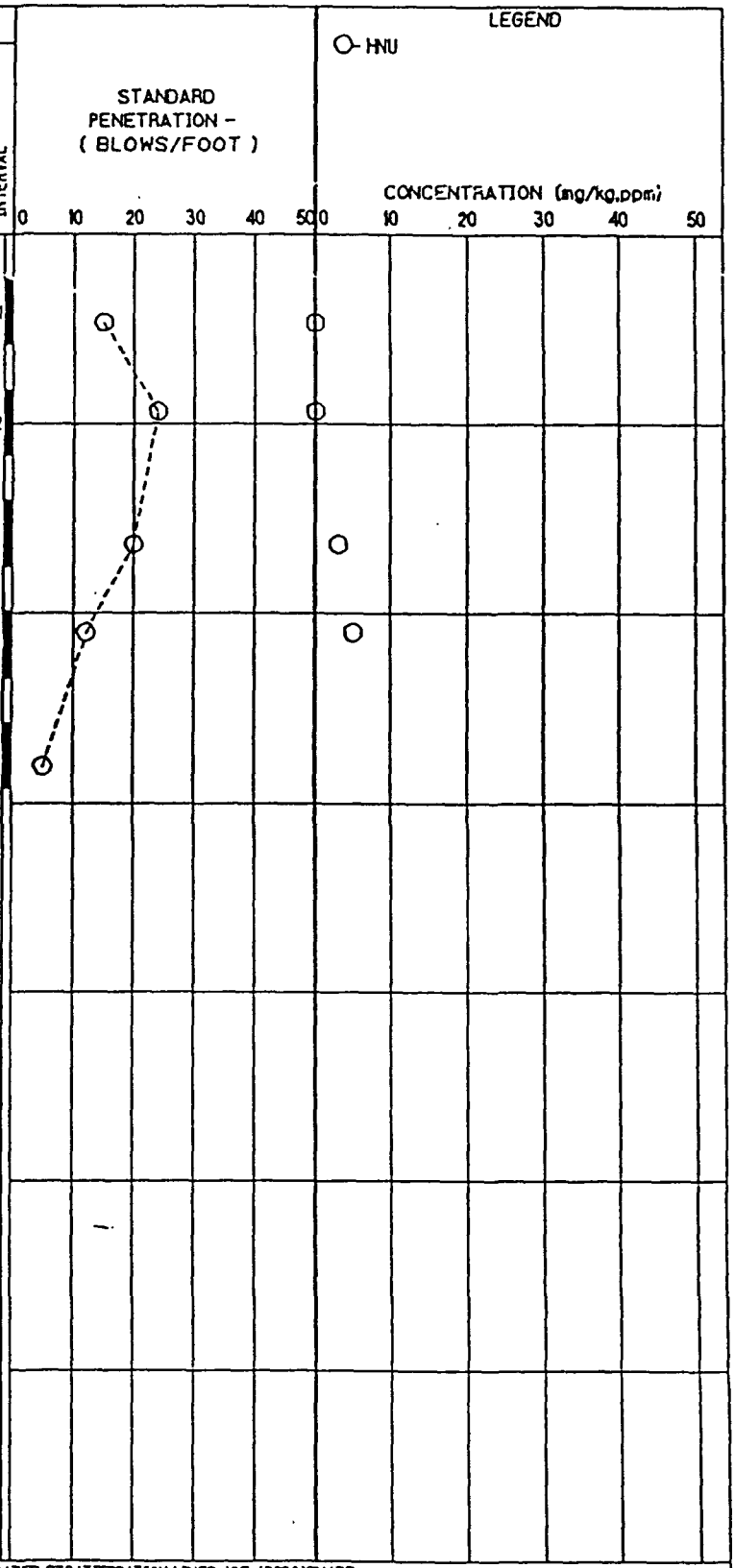
5 Inches of Bituminous Concrete

7 Inches of Mixed Sand & Gravel Base

Fine Sand-Trace Silt & Gravel-Brown (Fill)

Note:

1. At 12.5 feet below ground level, a concrete pad obstruction was encountered.



WATER LEVEL OBSERVATIONS

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004523

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CONSUMERS POWER COMPANY
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER:

A/E:
BY: EWN DATE: 12/23/94
JOB NUMBER: PE21914

BORING B101
SHEET: 1

WELL DIAGRAM

DRILLER: KC RIG: GLD

DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (mg/kg,ppm)

GROUND SURFACE ELEVATION =

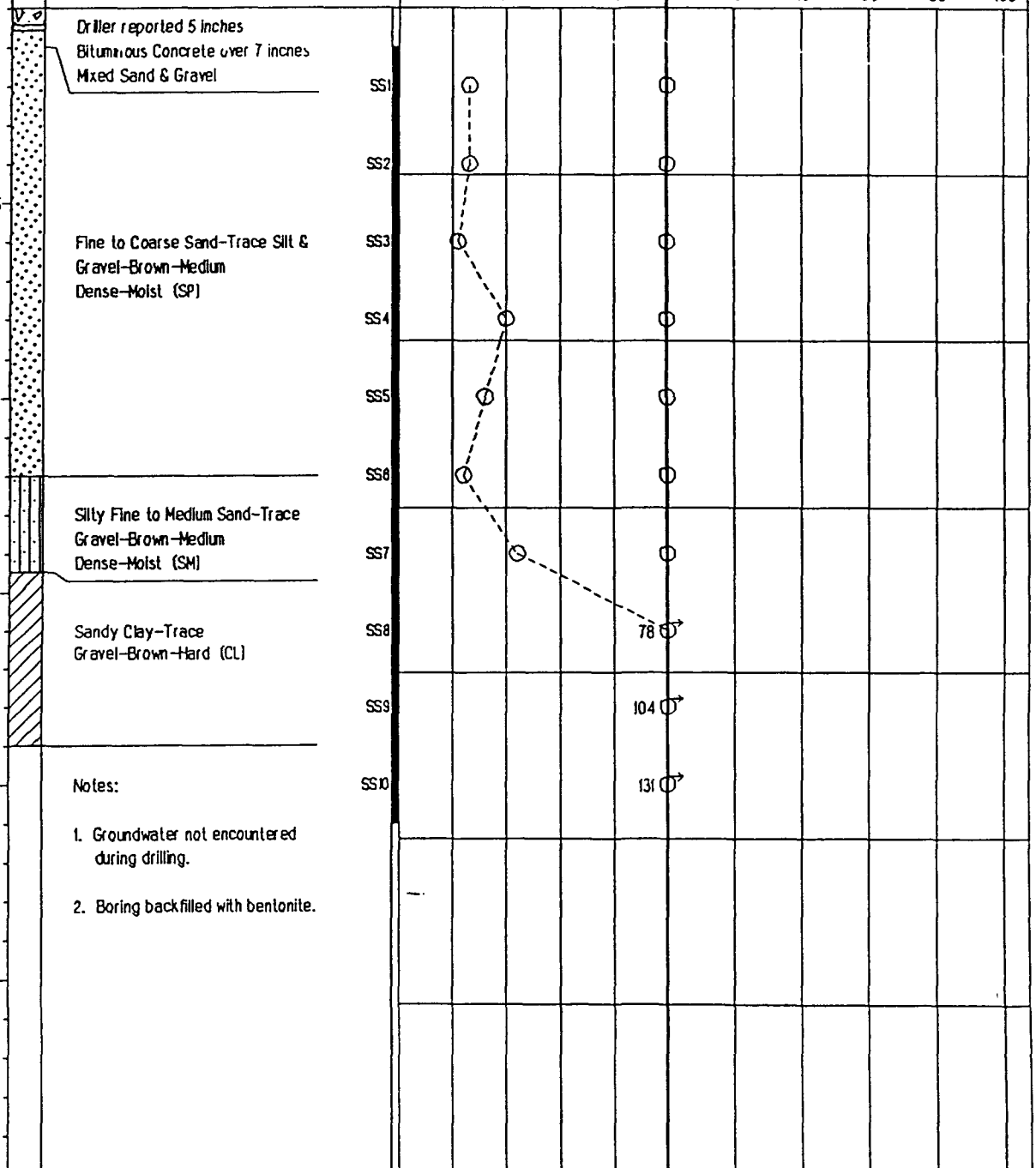
LEGEND: O- MTIP

Driller reported 5 inches Bituminous Concrete over 7 inches Mixed Sand & Gravel

Fine to Coarse Sand-Trace Silt & Gravel-Brown-Medium Dense-Moist (SP)

Silty Fine to Medium Sand-Trace Gravel-Brown-Medium Dense-Moist (SM)

Sandy Clay-Trace Gravel-Brown-Hard (CL)



Notes:

1. Groundwater not encountered during drilling.
2. Boring backfilled with bentonite.

WATER LEVEL OBSERVATIONS

NOTES: 1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004524

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CONSUMERS POWER COMPANY
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER:

A/E:
BY: EWN DATE: 12/23/94
JOB NUMBER: PE21914

BORING B102
SHEET: 1

WELL DIAGRAM

DRILLER. KC | RIG. GLD

PROFILE DESCRIPTION

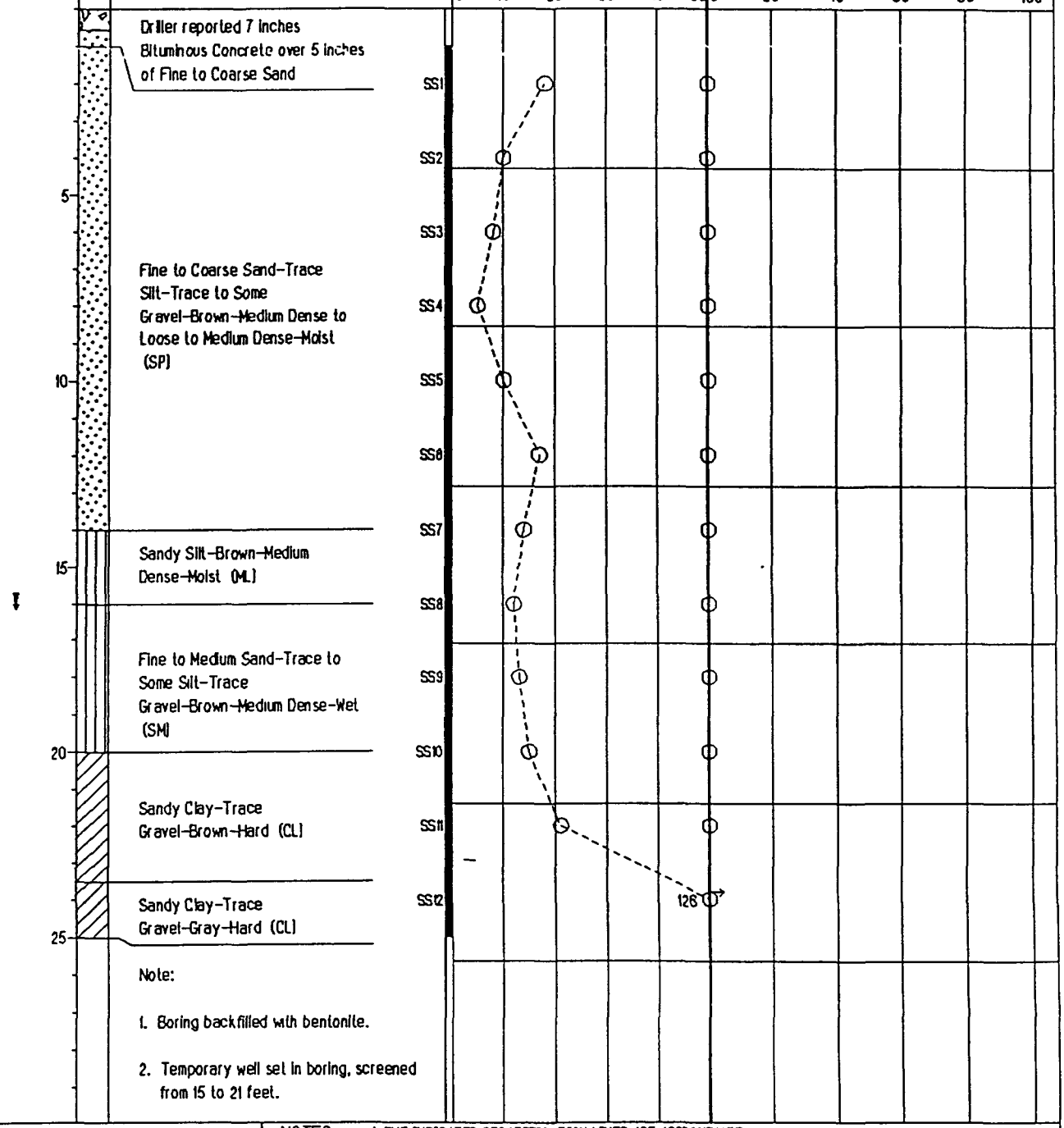
GROUND SURFACE ELEVATION =

DEPTH (FEET) | SYMBOLIC PROFILE | SAMPLE TYPE, NUMBER & INTERVAL

STANDARD PENETRATION - (BLOWS/FOOT)

LEGEND
O- MTIP

CONCENTRATION (mg/kg,ppm)



Driller reported 7 inches Bituminous Concrete over 5 inches of Fine to Coarse Sand

Fine to Coarse Sand-Trace Silt-Trace to Some Gravel-Brown-Medium Dense to Loose to Medium Dense-Moist (SP)

Sandy Silt-Brown-Medium Dense-Moist (ML)

Fine to Medium Sand-Trace to Some Silt-Trace Gravel-Brown-Medium Dense-Wet (SM)

Sandy Clay-Trace Gravel-Brown-Hard (CL)

Sandy Clay-Trace Gravel-Gray-Hard (CL)

Note:

1. Boring backfilled with bentonite.
2. Temporary well set in boring, screened from 15 to 21 feet.

WATER LEVEL OBSERVATIONS

▼ GROUNDWATER ENCOUNTERED DURING DRILLING

NOTES.
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004525

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CONSUMERS POWER COMPANY
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER:

A/E:
BY: EWN DATE: 12/23/94
JOB NUMBER: PE21914

BORING B103
SHEET: 1

WELL DIAGRAM

DRILLER. KC | RIG. GLD

PROFILE DESCRIPTION

GROUND SURFACE ELEVATION =

DEPTH (FEET) | SYMBOLIC PROFILE | SAMPLE TYPE, NUMBER & INTERVAL

STANDARD PENETRATION - (BLOWS/FOOT)

LEGEND
O- MTIP

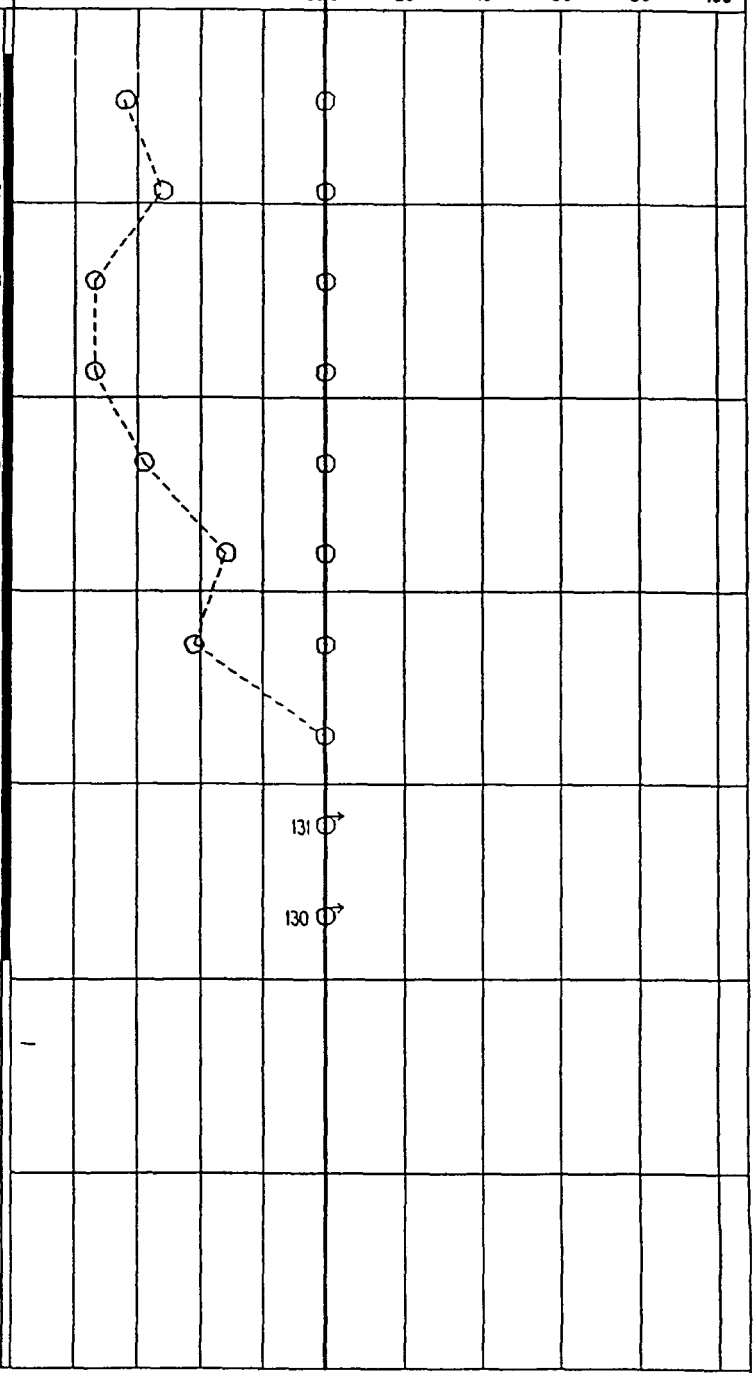
CONCENTRATION (mg/kg,ppm)

Driller reported 6 inches Bituminous Concrete over 6 inches Fine to Coarse Sand

Fine to Coarse Sand-Trace Silt-Trace to Some Gravel-Brown-Medium Dense-Moist (SP)

Silty Fine to Medium Sand-Trace Gravel-Brown-Dense-Moist (SM)

Sandy Clay-Trace Gravel-Brown-Hard (CL)



Notes:

1. Groundwater not encountered during drilling.
2. Boring backfilled with bentonite.
3. Concrete encountered at 13'; offset and redrilled to 13' then continued sampling.

WATER LEVEL OBSERVATIONS

NOTES.
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004526

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CONSUMERS POWER COMPANY
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER:

A/E:
BY: EWN DATE: 12/23/94
JOB NUMBER: PE21914

BORING B104
SHEET: 1

WELL DIAGRAM

DRILLER: KC | RIG: GLD

DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (mg/kg,ppm)

GROUND SURFACE ELEVATION =

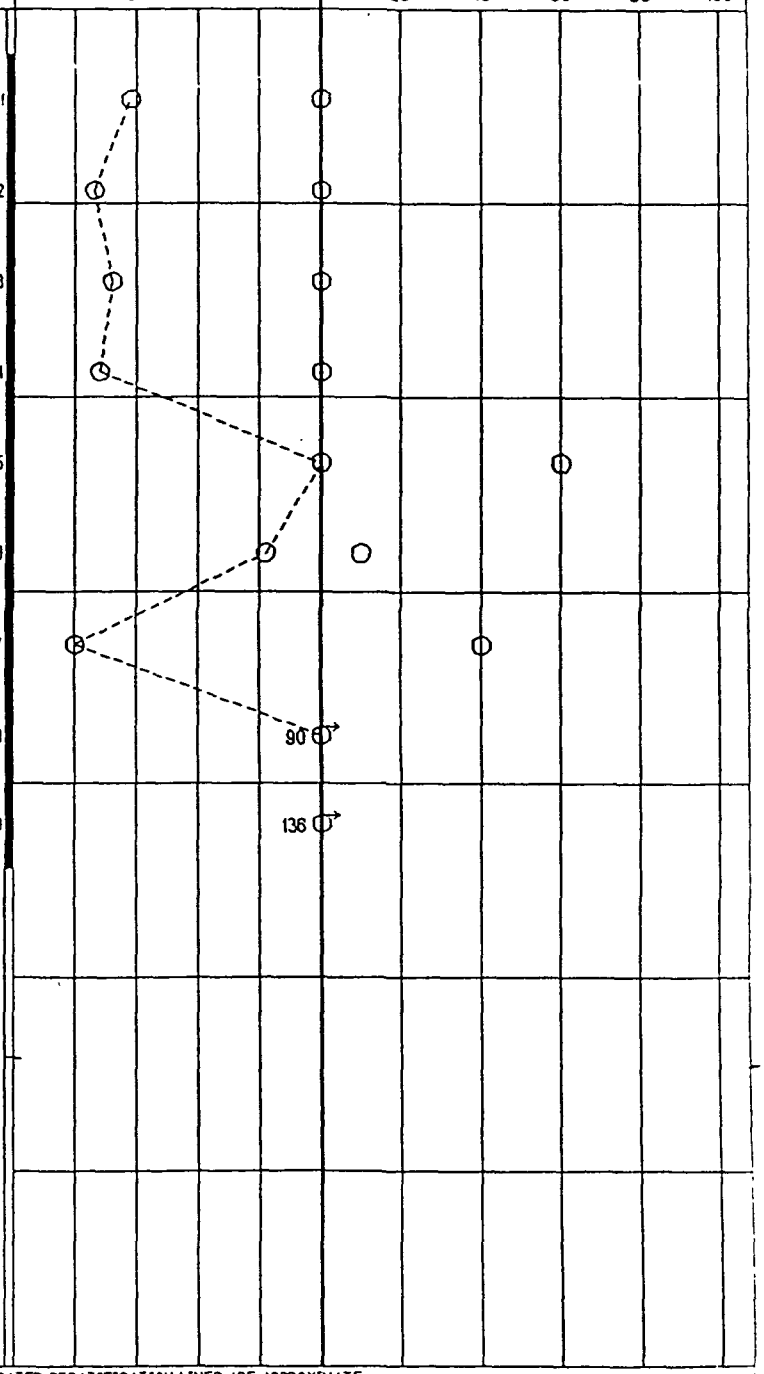
LEGEND: O- MTIP

Driller reported 6 inches Bituminous Concrete over 6 inches Fine to Coarse Sand

Fine to Coarse Sand-Trace Silt & Gravel-Brown-Medium Dense-Moist (SP)

Silty Fine Sand-Trace Gravel-Brown-Dense-Moist (SM)

Sandy Clay-Trace Gravel-Brown-Hard (CL)



Notes:

1. Groundwater not encountered during drilling.
2. Boring backfilled with bentonite.
3. Concrete encountered from 14' to about 14.5'.

WATER LEVEL OBSERVATIONS

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004527

SOIL AND MATERIALS ENGINEERS, INC

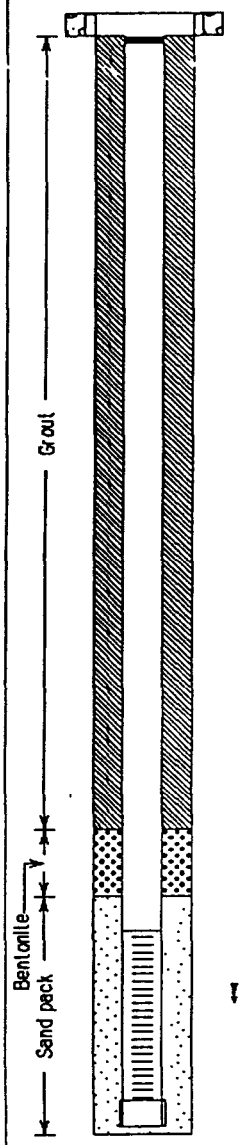
JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER:

A/E:
BY: DJG DATE: 2/13/95
JOB NUMBER: PE21914

BORING MW/B201
SHEET: 1

DRILLER: MATECO | RIG: 30

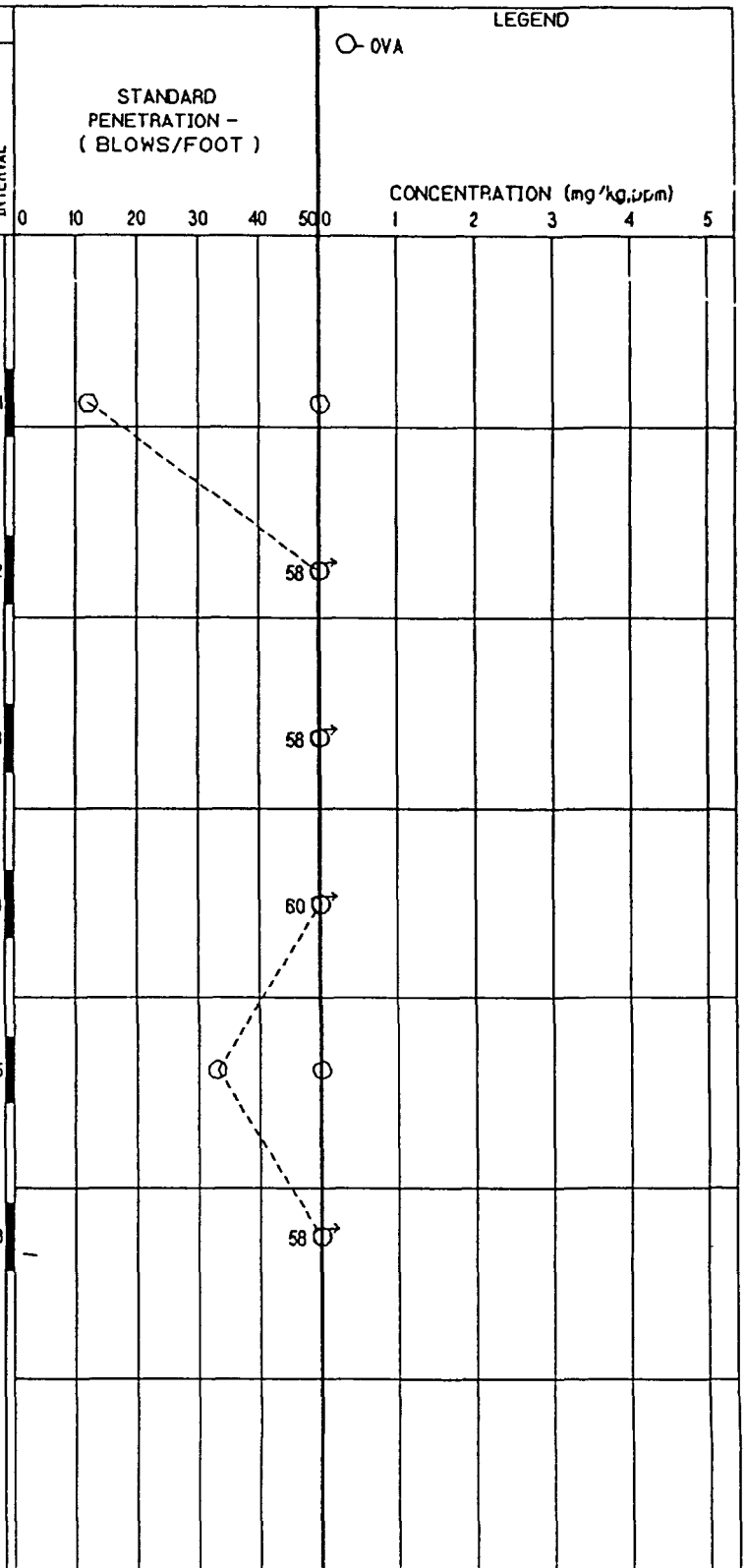
WELL DIAGRAM



DEPTH (FEET)	PROFILE DESCRIPTION	SAMPLE TYPE, NUMBER & INTERVAL
	GROUND SURFACE ELEVATION =	
	Driller reported 6 inches Bituminous Concrete over 6 inches Mixed Sand & Gravel (GM)	
5	Fine to Coarse Sand-Trace Silt & Gravel-Medium Dense (SP)	SS1
10		SS2
15	Sandy Clay-Trace Silt & Gravel-Hard (CL)	SS3
20		SS4
25	Silty Clay-Trace Sand & Gravel-Hard (CL)	SS5
30	Fine Sand-Trace Gravel-Occasional Wet Silt Layers-Medium Dense to Dense (SP)	SS6
35		

Note:

1. Groundwater encountered at 29'.
2. Well screen set at 27' to 32'.



WATER LEVEL OBSERVATIONS

GROUNDWATER ENCOUNTERED DURING DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004528

SOIL AND MATERIALS ENGINEERS, INC

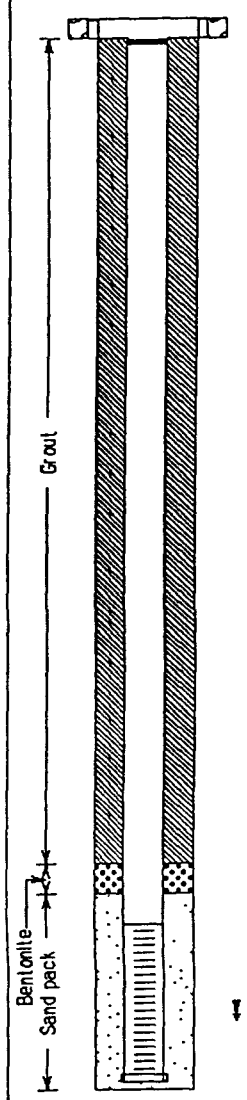
JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER:

A/E:
BY: DJG DATE: 2/13/95
JOB NUMBER: PE21914

BORING MW/B202
SHEET: 1

DRILLER: MATECO | RIG: 30

WELL DIAGRAM



DEPTH (FEET)	PROFILE DESCRIPTION (GROUND SURFACE ELEVATION =)	SAMPLE TYPE, NUMBER & INTERVAL	STANDARD PENETRATION - (BLOWS/FOOT)	CONCENTRATION (mg/kg,ppm)
0	Driller reported 8 inches Bituminous Concrete over 4 inches Mixed Sand & Gravel (GM)			
5	Fine Sand-Trace Silt & Gravel-Medium Dense-Fill (SP-Fill)			
10				
13	Concrete UST Ballast Pad			
15	Clayey Sand-Trace Silt & Gravel-Medium Dense to Dense (SC)	SS1		
20		SS2	67	
25		SS3	55	
30	Fine Sand-Trace Silt & Gravel-Occasional Wet Silt Seams-Dense (SP)	SS4	78	
35	Silty Clay-Trace Gravel-Grey-Hard (CL)	SS5	70	
40				

Note:

1. Concrete ballast pad encountered at 13' to 14'.
2. Well screen set at 30' to 35'.

LEGEND: O- OVA

STANDARD PENETRATION - (BLOWS/FOOT): 0 10 20 30 40 50

CONCENTRATION (mg/kg,ppm): 0 1 2 3 4 5

WATER LEVEL OBSERVATIONS

▼ GROUNDWATER ENCOUNTERED DURING DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004529

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER:

A/E:
BY: DJG DATE 2/14/95
JOB NUMBER. PE21914

BORING 203
SHEET. 1

WELL DIAGRAM

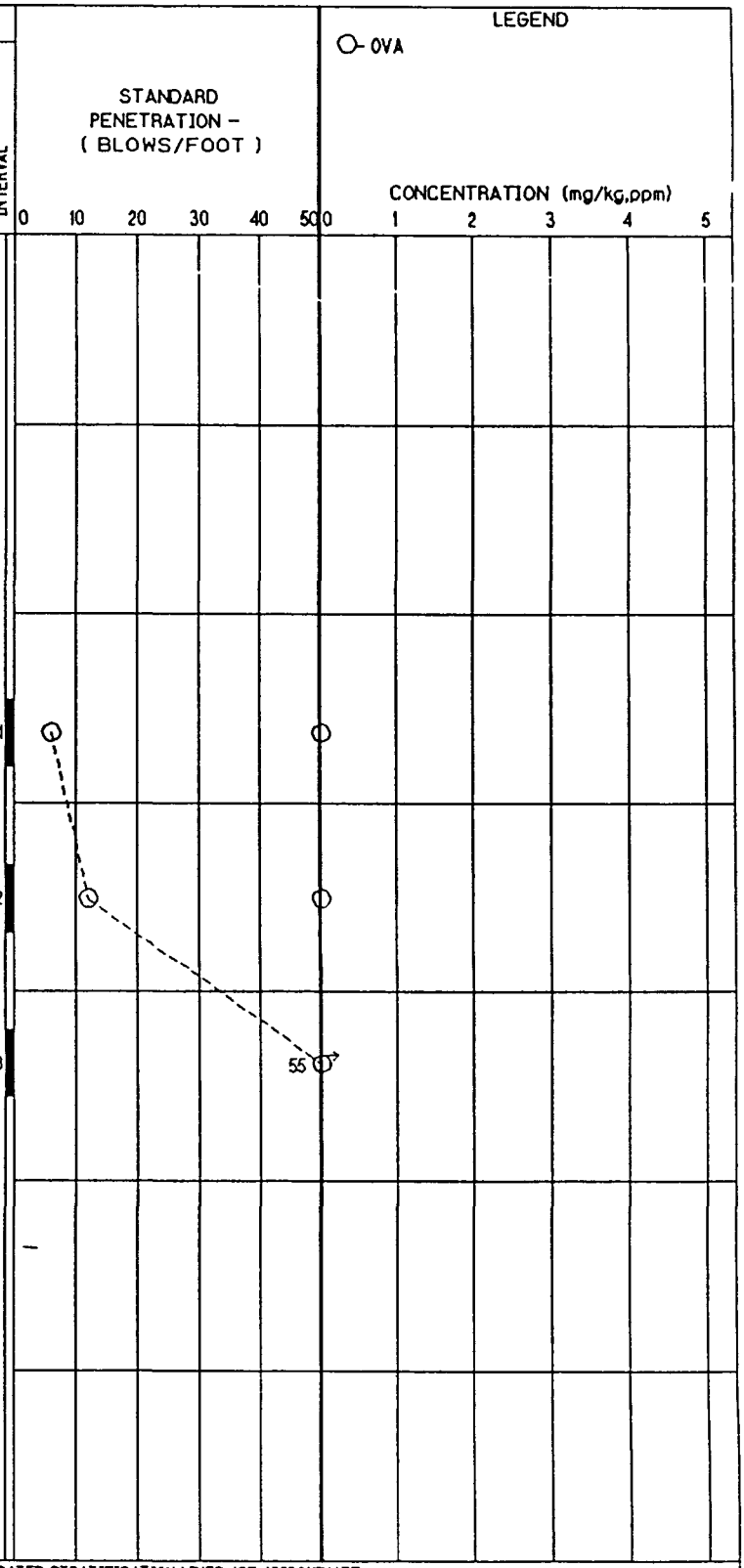
DRILLER. MATECO | RIG 30

GROUND SURFACE ELEVATION =

DEPTH (FEET)	PROFILE DESCRIPTION	SAMPLE TYPE, NUMBER & INTERVAL
	Driller reported 8 inches Bituminous Concrete over 4 inches Mixed Sand & Gravel (GM)	
5	Fine Sand-Trace Silt & Gravel-Loose-Fill (SP/Fill)	
10		
	Concrete UST Ballast Pad	
15	Fine Silty Sand-Loose to Medium Dense (SM)	SS1
20	Clayey Sand-Tace Silt & Gravel-Medium Dense (SC)	SS2
25	Silty Clay-Trace Sand & Gravel-Hard (CL)	SS3
30		
35		

Note:

1. Boring backfilled from 20' to 26' with bentonite, 0' to 20' with soil cuttings.
2. Concrete ballast pad encountered.
3. Groundwater was not encountered during drilling



WATER LEVEL OBSERVATIONS

NOTES
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004530

SOIL AND MATERIALS ENGINEERS, INC

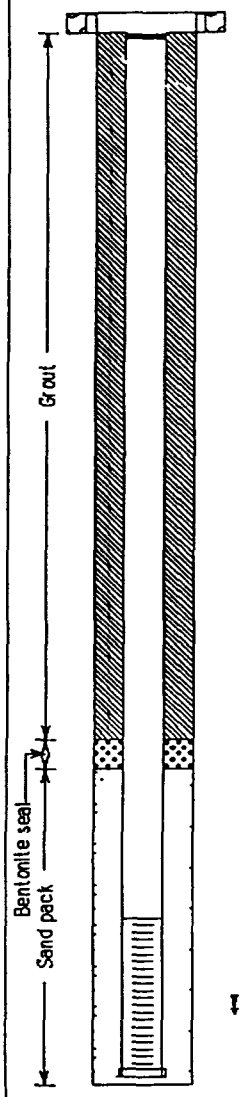
JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER:

A/E:
BY: DJG DATE. 2/13/95
JOB NUMBER: PE21914

BORING MW/B204
SHEET: 1

DRILLER. MATECO | RIG 30

WELL DIAGRAM



DEPTH (FEET)	PROFILE DESCRIPTION	SAMPLE TYPE, NUMBER & INTERVAL	STANDARD PENETRATION - (BLOWS/FOOT)	CONCENTRATION (mg/kg,ppm)
	GROUND SURFACE ELEVATION =			
	Driller reported 8 inches Bituminous Concrete over 4 inches Mixed Sand & Gravel (GM)			
5, 10	Fine Sand-Trace Silt & Gravel-Medium Dense-Fill (SP-Fill)			
	Concrete UST Ballast Pad			
15	Fine Sand-Trace Silt & Gravel-Odors & Staining-Medium Dense (SP)	SS1		
	Sandy Clay-Trace Silt & Gravel-Hard (CL)			
20		SS2	53	
	Silty Clay-Trace Sand & Gravel-Grey-Hard (CL)			
25		SS3	84	
30		SS4	98	
	Sandy Clay-Trace Gravel-Occasional Wet Sand Seams-Hard (CL)			
35		SS5	78	
40				

Note:

1. Concrete ballast pad encountered at 13' to 14'
2. Well screen set at 30' to 35'.

STANDARD PENETRATION - (BLOWS/FOOT): 0, 10, 20, 30, 40, 50

CONCENTRATION (mg/kg,ppm): 0, 200, 400, 600, 800, 1000

LEGEND: O- OVA

WATER LEVEL OBSERVATIONS

GROUNDWATER ENCOUNTERED DURING DRILLING

NOTES.
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004531

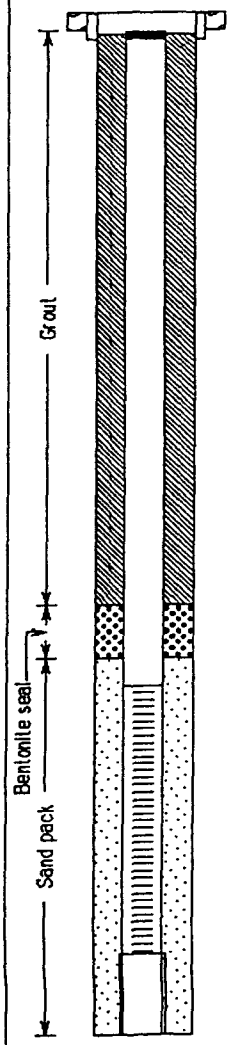
SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER:

A/E:
BY: DJG/TRN DATE: 3/25/96 BORING B204/RW1
JOB NUMBER: PE21914 SHEET: 1

DRILLER: RAU RIG: 55

WELL DIAGRAM



DEPTH (FEET)	PROFILE DESCRIPTION (GROUND SURFACE ELEVATION =)	SAMPLE TYPE, NUMBER & INTERVAL	OVA (ppm)
	Driller reported 8 inches of Bituminous Concrete over 4 inches Mixed Sand & Gravel (Fill)		
5	Fine Sand-Trace Silt & Gravel-Medium Dense (SP-Fill)		
10			
	Concrete UST Ballast Pad		
15	Fine Sand- Trace Silt & Gravel- Odors & Staining- Dense (SP)	SS1	
	Sandy Clay-Trace Silt & Gravel-Hard (CL)		
20		SS2	53
	Silty Clay-Trace Sand & Gravel-Grey-Hard (CL)		
25		SS3	84
30		SS4	98
35	Sandy Clay-Some Silt- Trace Gravel- Frequent Wet Fine to Medium Sand Seams & Layers- Hard (CL)	SS5	78
		SS6	
		SS7	
40			
45			

STANDARD PENETRATION - (BLOWS/FOOT): 0, 10, 20, 30, 40, 50

LEGEND: O- OVA

CONCENTRATION (ppm): 0, 200, 400, 600, 800, 1000

1. Concrete ballast pad encountered at 13' to 14'.
2. Well screen set at 25' to 35'.
3. Recovery well, RW1, installed by overdrilling MW204. RW1 is 4" ID PVC with SS screen.
4. The soil descriptions are based on the original boring for B204 from grade to a depth of 35 feet.

WATER LEVEL OBSERVATIONS

▼ GROUNDWATER ENCOUNTERED DURING DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004532

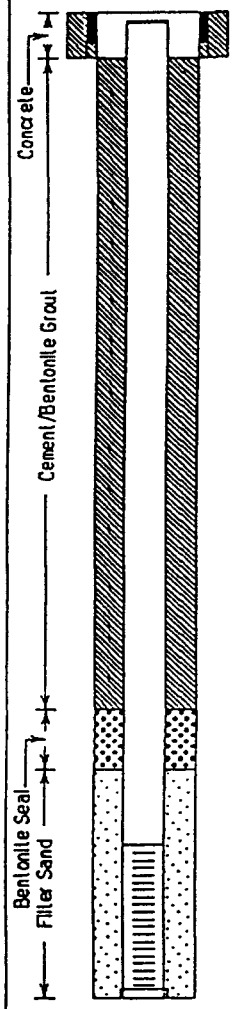
SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

A/E:
BY: EWN/PGB DATE: 5/16/95 BORING MW/B301
JOB NUMBER: PE21914 SHEET: 1

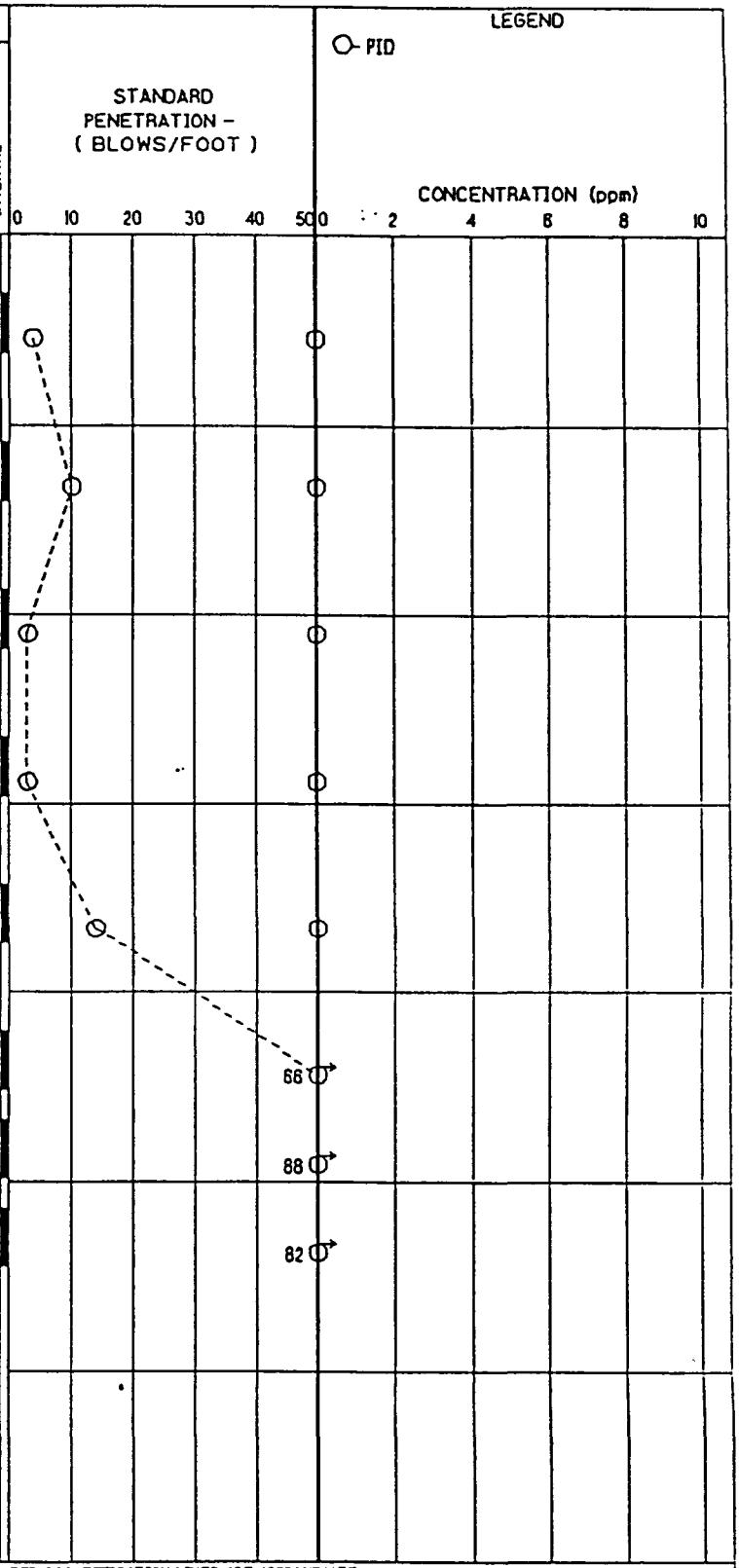
DRILLER: SR RIG: EDAC

WELL DIAGRAM



DEPTH (FEET)	PROFILE DESCRIPTION	SAMPLE TYPE, NUMBER & INTERVAL
	GROUND SURFACE ELEVATION = 99.62'	
	Driller reported 4 inches Bituminous Concrete over 8 inches of Gravel	
	Clayey Sand-Trace Gravel-Brown-Loose (SC)	SS1
5	Clayey Silt-Trace Organics-Brown-Soft (ML)	
	Gravelly Sand-Trace Silt-Brown-Moist-Medium Dense (SP)	SS2
10		
		SS3
15	Fine to Medium Sand-Trace Silt-Trace to Some Gravel-Brown-Moist to Wet-Loose to Medium Dense (SP)	SS4
20		
		SS5
25	Silty Clay-Trace Sand & Gravel-Brown (CL)	
		SS6
30	Fine to Medium Sand-Trace to Some Silt-Brown-Wet-Very Dense (SP-SM)	SS7
	Layered Fine Sand & Silt-Trace Gravel-Clay Layer from 31' to 31.5' & 34' to 35'-Brown & Gray-Extremely Dense (SP & ML)	SS8
35	END OF BORING AT 35 FEET.	
40		

Notes:
1. Monitoring well installed in borehole.
2. Groundwater encountered at 16' & 28'.
3. Hollow-stem augers advanced to 33'.



WATER LEVEL OBSERVATIONS
GROUNDWATER ENCOUNTERED DURING DRILLING
GROUNDWATER 0 HOURS AFTER DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004533

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

A/E:
BY: EWN/PGB DATE: 5/15/95
JOB NUMBER: PE21914

BORING B302
SHEET: 1

WELL DIAGRAM

DRILLER: SR RIG: EDAC

DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (ppm)

LEGEND: O- PID

GROUND SURFACE ELEVATION = 100.12'

Driller reported 8 inches Bituminous Concrete over 4 inches of Gravel

Silty Fine to Medium Sand-Trace Gravel-Brown-Moist-Medium Dense (SM- Fill)

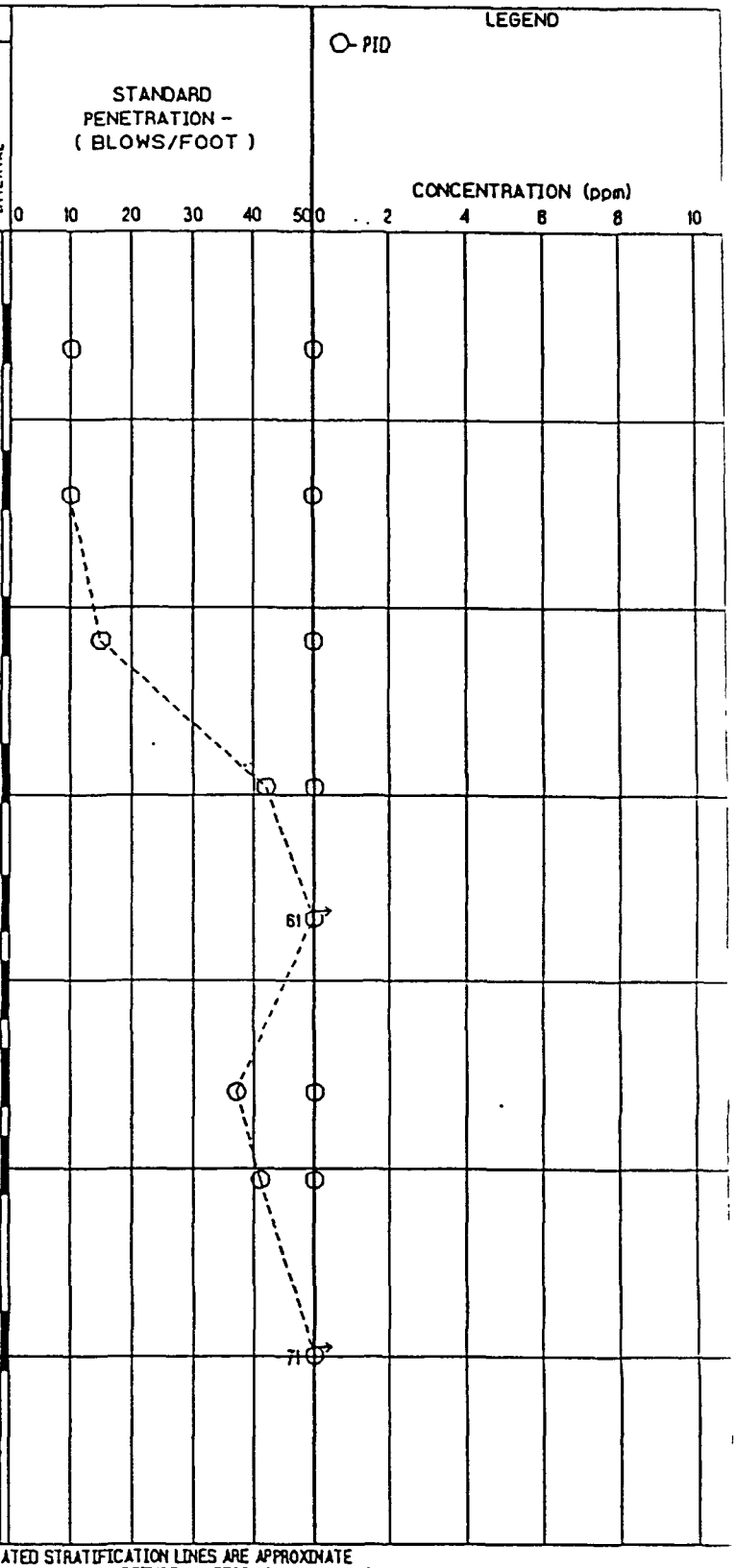
Fine to Coarse Sand-Trace to Some Gravel-Brown-Moist-Medium Dense (SP/SW)

Silty Clay-Trace Sand & Gravel-Brown, turning Gray at 24'-Hard (CL)

Sandy Clay-Trace Gravel-Gray-Hard (CL)

END OF BORING AT 39 FEET.

Notes:
1. Groundwater not encountered during drilling.
2. Hollow-stem augers advanced to 37'.
3. Boring backfilled with bentonite grout.



WATER LEVEL OBSERVATIONS

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004534

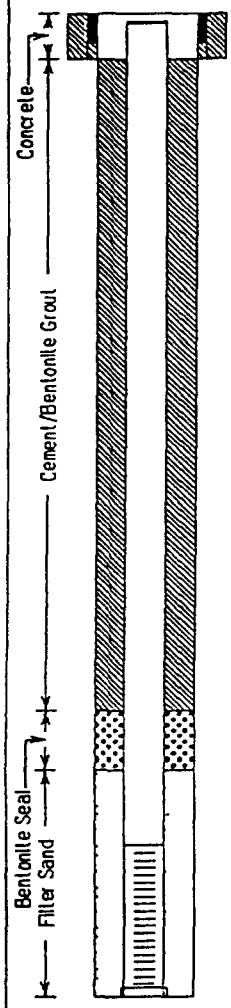
SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

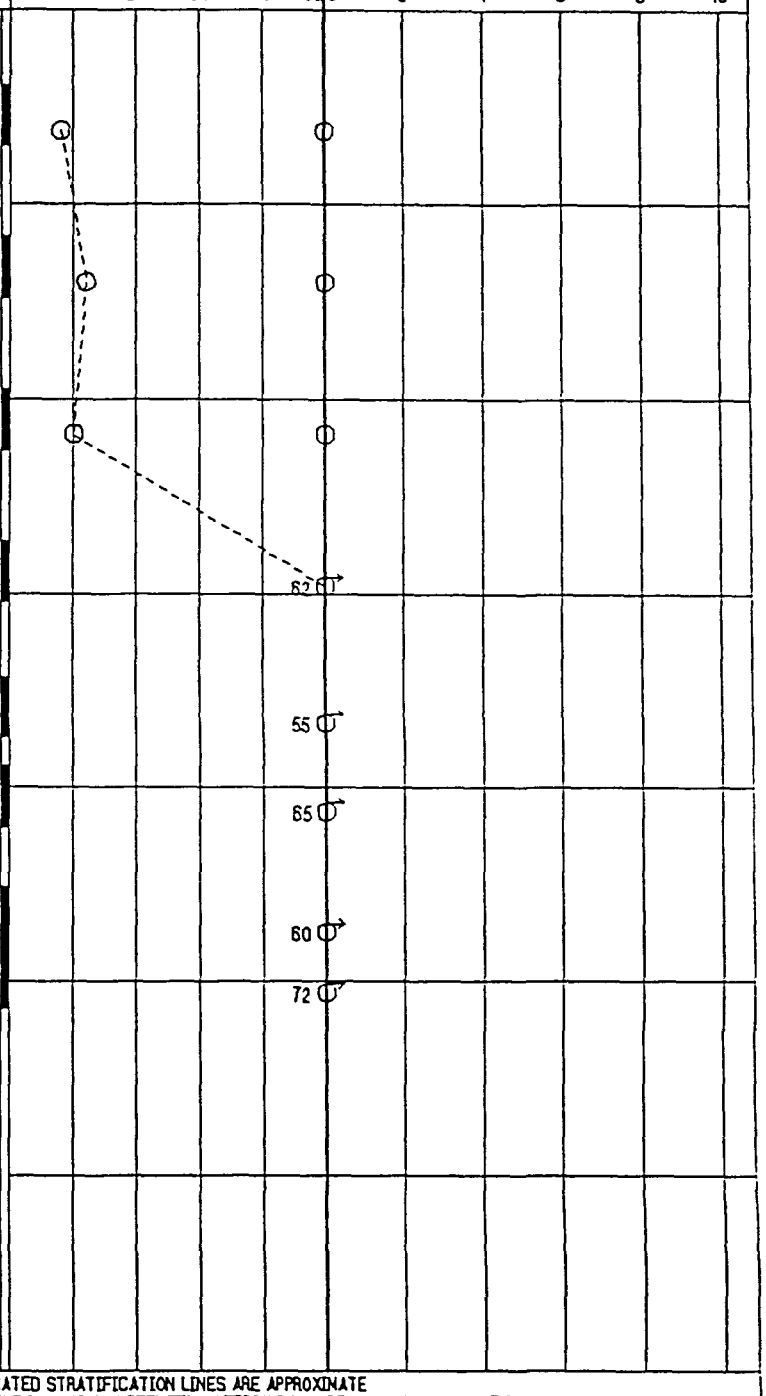
A/E.
BY: EWN/PGB DATE 5/16/95 BORING B303
JOB NUMBER. PE21914 SHEET. 1

DRILLER. SR RIG. EDAC

WELL DIAGRAM



DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION (GROUND SURFACE ELEVATION = 100.36')	SAMPLE TYPE, NUMBER & INTERVAL	STANDARD PENETRATION - (BLOWS/FOOT)	CONCENTRATION (ppm)
		Driller reported 8 inches Bitumnous Concrete over 8 inches of Gravel	SS1		
5					
10		Mixed Fine to Coarse Sand & Gravel-Trace Silt-Brown-Moist to Wet- Loose to Medum Dense (SP-Fill)	SS2		
15			SS3		
		Driller reported possible Concrete			
		Driller reported Gravel from cuttings (FP-Fill)	SS4		62
20					
		Silty Clay-Trace Sand & Gravel-Brown-Hard (CL)	SS5		55
25			SS6		65
30		Silty Fine to Coarse Sand-Trace Gravel-Gray-Wet-Very Dense (SM)	SS7		60
		Sandy Clay-Trace Gravel-Gray-Hard (CL)	SS8		72
35		END OF BORING AT 33 FEET.			
40					



Notes:
1. Monitoring well installed in borehole.
2. Groundwater encountered at 15' & 29'.
3. Hollow-stem augers advanced to 32.5'.

WATER LEVEL OBSERVATIONS
GROUNDWATER ENCOUNTERED DURING DRILLING
GROUNDWATER 0 HOURS AFTER DRILLING

NOTES. 1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004535

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

A/E:
BY: EWN/PGB DATE: 5/15/95
JOB NUMBER: PE21914

BORING B304
SHEET: 1

WELL DIAGRAM

DRILLER: SR RIG: EDAC

DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (ppm)

GROUND SURFACE ELEVATION = 100.07'

LEGEND: ○ PID

Driller reported 4 inches Bituminous Concrete

Silty Fine to Coarse Sand-Trace to Some Gravel-Brown-Moist (SM-Fill)

Driller reported 12 inches of Concrete

Sandy Clay-Trace to Some Gravel-Brown, turning Gray at 21 feet-Hard (CL)

Silty Clay-Trace Sand & Gravel-Gray-Hard (CL)

Fine to Coarse Sand-Trace Gravel-Trace to Some Silt-Gray-Wet (SP/SM)

Sandy Clay-Trace Gravel-Gray-Hard (CL)

END OF BORING AT 34 FEET.

Notes:
1. Temporary well set with screen from 22'-27' & 27'-32'.
2. Groundwater not observed from 22'-27'.
3. Gasoline odors in cuttings from 15'-20'.
4. Hollow-stem augers advanced to 37'.
5. Boring backfilled with bentonite grout.

Sample	Standard Penetration (Blows/Foot)	Concentration (ppm)
SS1	89	
SS2	57	
SS3	58	
SS4		

WATER LEVEL OBSERVATIONS
▼ GROUNDWATER ENCOUNTERED DURING DRILLING
▽ GROUNDWATER 0 HOURS AFTER DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004536

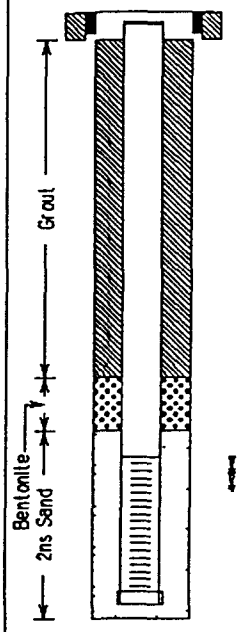
SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

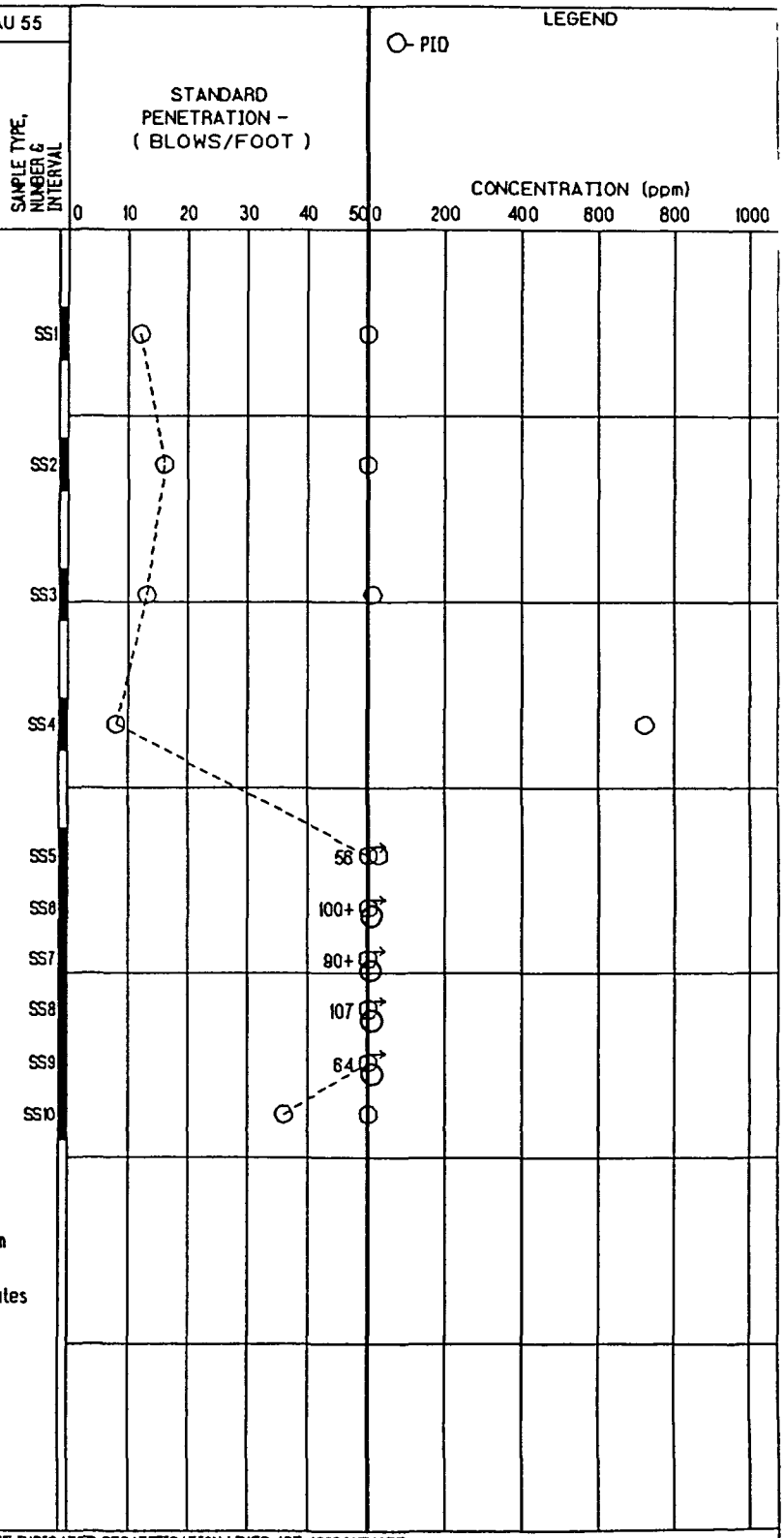
A/E
BY. EWN/TRN DATE 3/20/96 BORING B401/MW401
JOB NUMBER PE21914 SHEET. 1

DRILLER. TD RIG. RAU 55

GROUND SURFACE ELEVATION = 100.1



DEPTH (FEET)	PROFILE DESCRIPTION
	4 inches of Bituminous Concrete over 20 inches of Sand & Gravel Fill
5–10	Fine to Coarse Sand- Trace to Some Silt & Gravel- Brown- Moist- Medium Dense (SP-SM)
10–15	Fine to Medium Sand- Trace Silt & Gravel- Frequent Fine Sand Layers- Brown- Moist- Medium Dense (SP)
15–20	Fine Sand- Trace Silt & Gravel- Brown- Moist to Wet- Loose (SP)
20–35	Sandy Clay- Some Silt- Trace Gravel- Brown turning Gray at 28.5 feet- Hard (CL)



Notes:

1. Temporary well set with screens from 17 to 22 feet & 29 to 34 feet. No groundwater observed after 45 minutes with screen from 28 to 24 feet.
2. MW401 offset approximately 2 feet west; blind drilled to 22 feet.
3. Boring backfilled with cement/ benonite grout.

WATER LEVEL OBSERVATIONS
GROUNDWATER ENCOUNTERED DURING DRILLING
GROUNDWATER 0 HOURS AFTER DRILLING

NOTES. 1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004537

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

A/E:
BY: EWN/TRN DATE: 3/20/96 BORING B402
JOB NUMBER: PE21914 SHEET: 1

WELL DIAGRAM

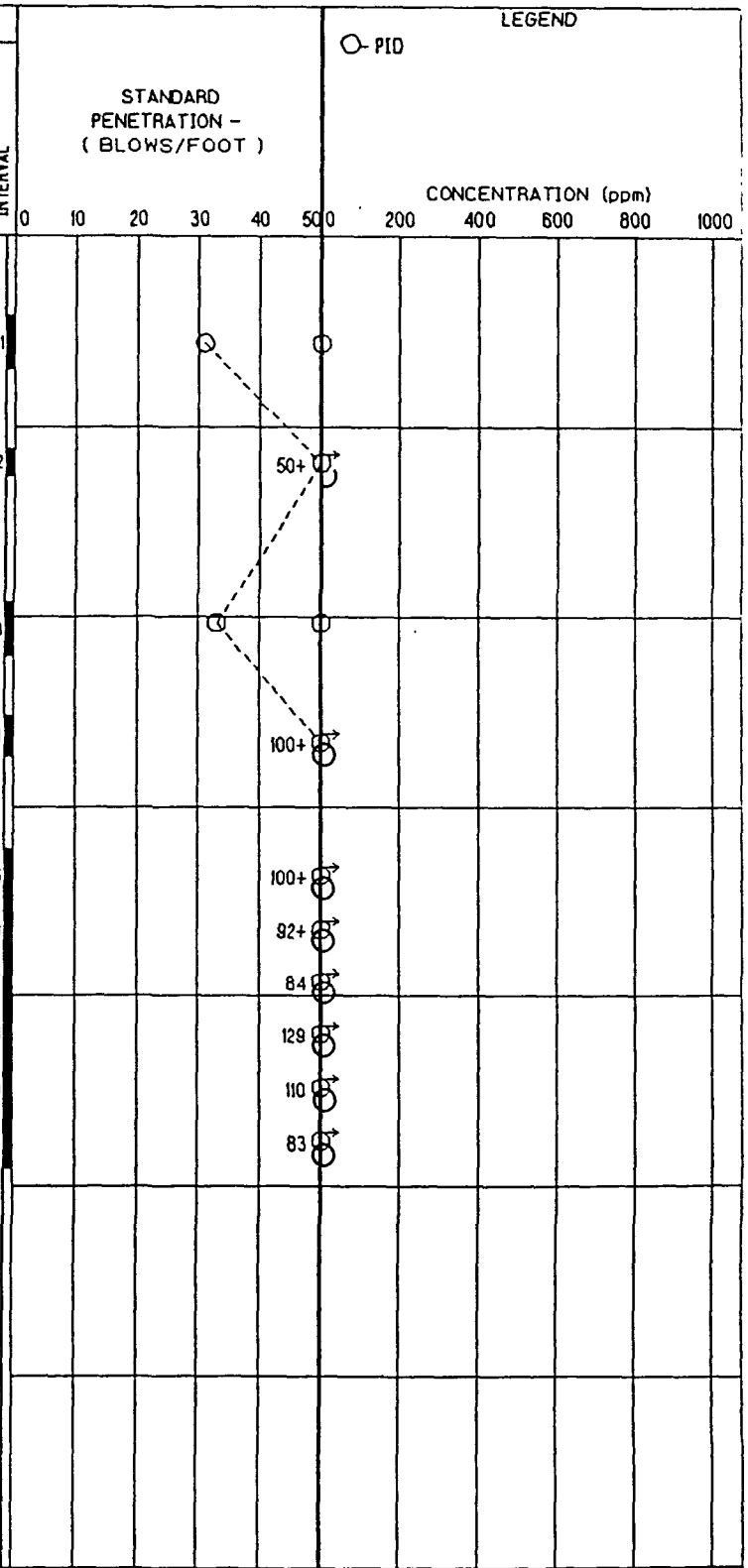
DRILLER: TD RIG: RAU 55

GROUND SURFACE ELEVATION = 100.1

DEPTH (FEET)	PROFILE DESCRIPTION
	3 Inches of Bituminous Concrete
	Fine to Coarse Sand- Trace to Some Silt- Trace Gravel- Brown- Moist- Dense (Fill)
5	Fine Sand- Trace Silt & Gravel- Brown- Moist- Dense (driller reported bituminous concrete at 9 feet; sampler refusal at 9 feet) (Fill)
10	
	Portland Cement Concrete
15	Fine Sand- Trace Silt & Medium Sand- Brown- Moist- Dense (SP)
20	Sandy Clay- Some Silt- Trace Gravel- Brown turning Gray at 19 feet- Hard (CL)
25	
30	Sandy Clay- Some Silt- Frequent Fine to Medium Sand Seams & Layers- Occasional Silty Clay Seams below 32 feet- Brown Fine to Medium Sand Layer from 27 to 28.25 feet and from 30 to 32 feet- Gray- Hard (CL)
35	
40	
45	

Notes:

1. Temporary well set with screen from 28 to 33 feet.
2. Boring backfilled with cement/bentonite grout.



WATER LEVEL OBSERVATIONS

- GROUNDWATER ENCOUNTERED DURING DRILLING
- GROUNDWATER 0 HOURS AFTER DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004538

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

A/E:
BY: EWN/TRN DATE: 3/21/96
JOB NUMBER: PE21914

BORING B403
SHEET: 1

WELL DIAGRAM

DRILLER: TD RIG: RAU 55

DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (ppm)

GROUND SURFACE ELEVATION = 100.3

3 Inches of Bituminous Concrete over 6 Inches of Gravel Fill

Fine to Coarse Sand- Trace Silt & Gravel- Brown- Moist- Medium Dense to Loose (SP)

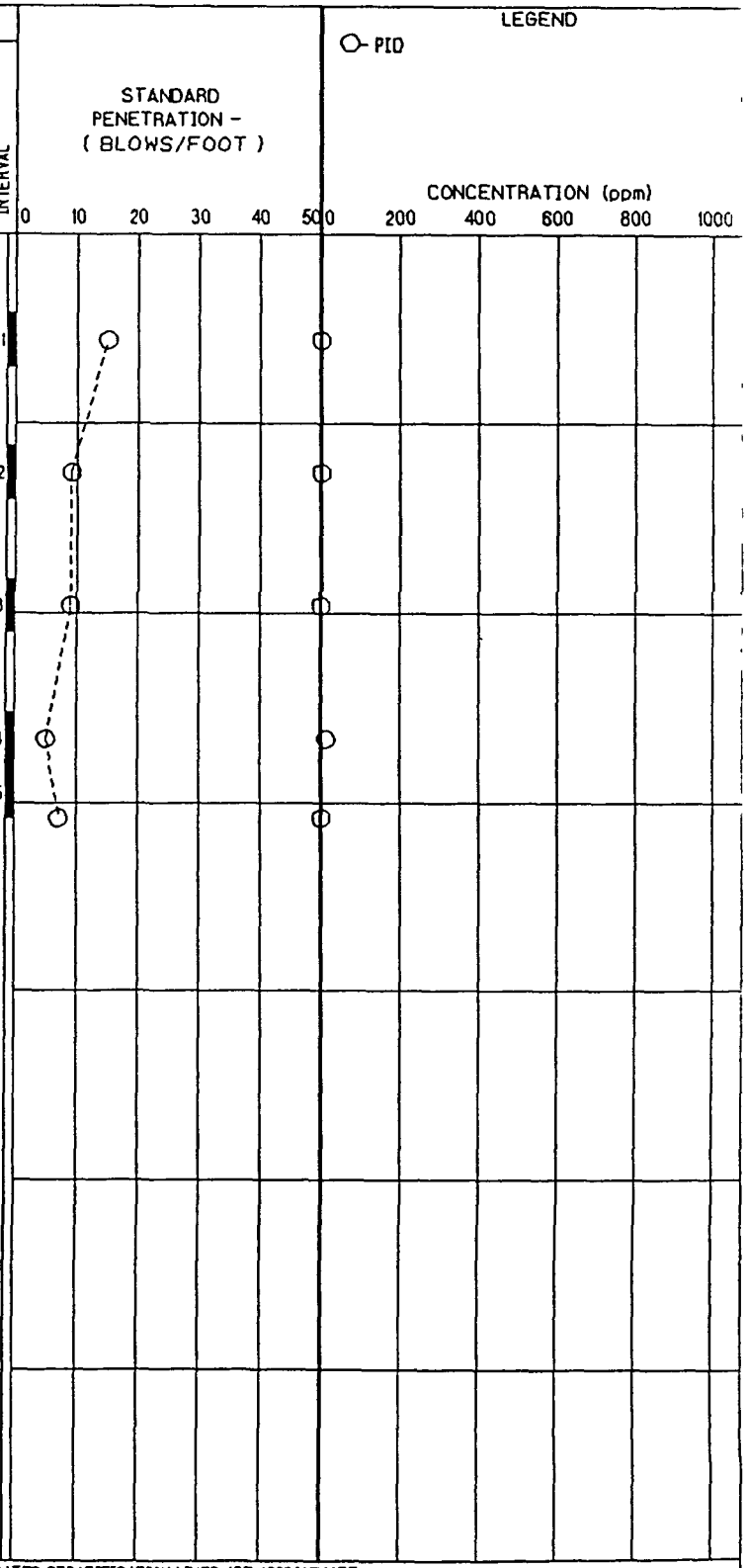
Fine Sand- Trace Silt- Brown- Wet- Loose (SP) Wet (SP)

Sandy Clay- Some Silt- Trace Gravel- Brown- Hard (CL)

Notes:

1. Temporary well set with screen from 15 to 20 feet.
2. Boring backfilled with bentonite chips.

SS1, SS2, SS3, SS4, SS5



LEGEND
O- PID

WATER LEVEL OBSERVATIONS
GROUNDWATER ENCOUNTERED DURING DRILLING
GROUNDWATER 0 HOURS AFTER DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004539

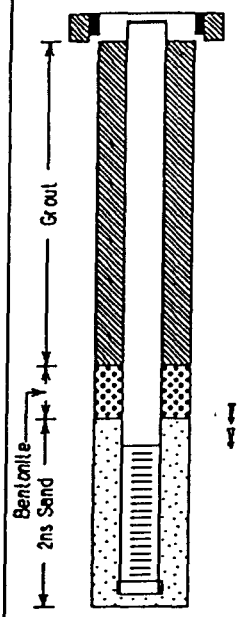
SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

A/E:
BY: EWN/TRN DATE: 3/21/98 BORING B404/MW404
JOB NUMBER: PE21914 SHEET: 1

DRILLER: TD RIG: RAU 55

WELL DIAGRAM



DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (ppm)

GROUND SURFACE ELEVATION = 89.8

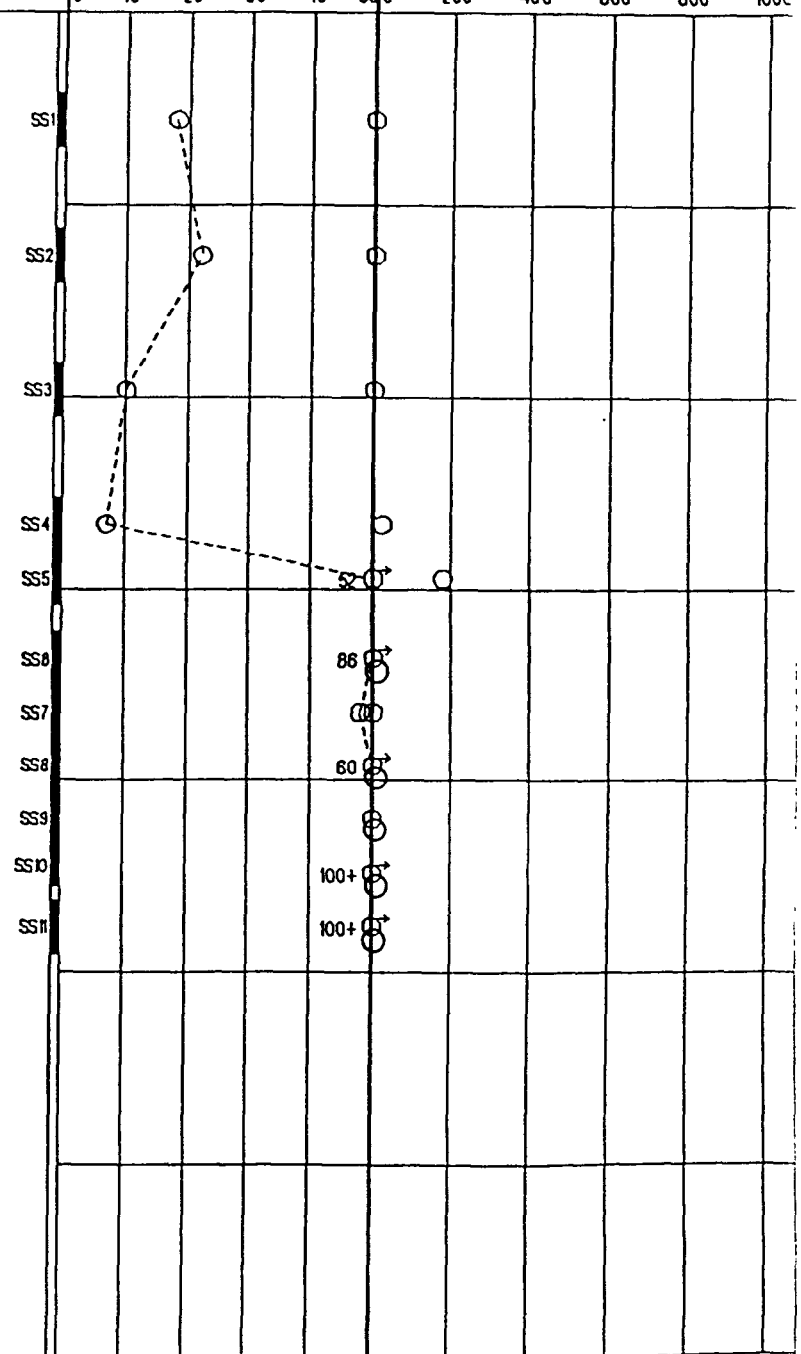
3 inches of Bituminous Concrete over 8 inches of Gravel

Fine Sand- Trace to Some Silt- Trace Gravel- Brown- Moist (SP-SM)

Fine to Coarse Sand- Trace Gravel & Silt- Brown- Moist- Medium Dense (SP)

Fine Sand- Trace Silt & Gravel- Brown with Black staining from 18.5 to 19.5 feet- Moist to Wet- Medium Dense to Loose (SP)

Sandy Clay- Some Silt- Trace Gravel- Occasional Sand Seams & Layers- Brown Fine to Medium Sand Layer from 30 to 33 feet- Brown turning Gray at 23 feet- Hard (CL)



Notes:

1. Temporary wells set with screen from 15 to 20 feet & 28 to 33 feet.
2. MW404S offset 2 feet northwest; blind drilled to 22 feet.
3. Boring backfilled with cement/ bentonite grout.

WATER LEVEL OBSERVATIONS
GROUNDWATER ENCOUNTERED DURING DRILLING
GROUNDWATER 0 HOURS AFTER DRILLING

NOTES: 1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004540

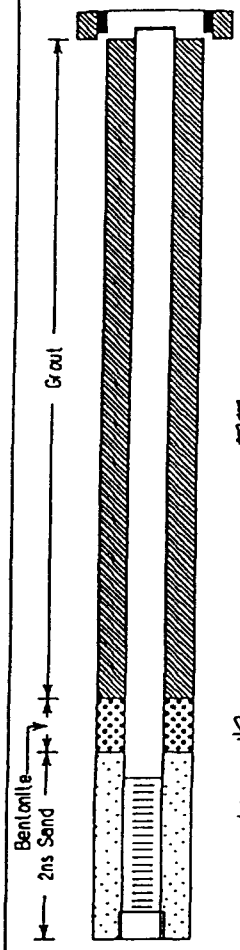
SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

A/E:
BY: EWN/TRN DATE: 3/21/98 BORING B404/MW404
JOB NUMBER: PE21914 SHEET: 1

DRILLER: TD RIG: RAU 55

WELL DIAGRAM



DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (ppm)

LEGEND: O- PID

GROUND SURFACE ELEVATION = 89.8

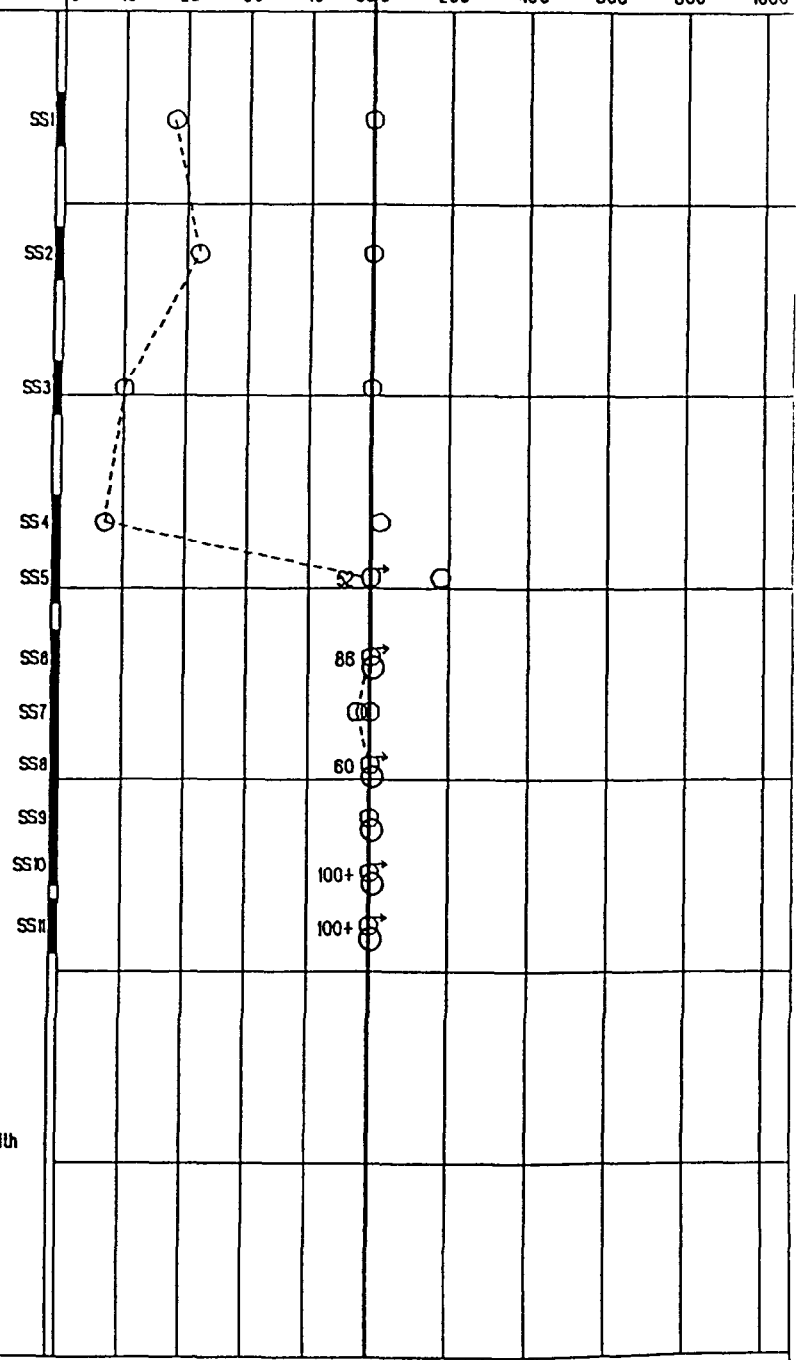
3 Inches of Bituminous Concrete over 8 Inches of Gravel Fill

Fine Sand- Trace to Some Silt- Trace Gravel- Brown- Moist (SP-SM)

Fine to Coarse Sand- Trace Gravel & Silt- Brown- Moist- Medium Dense (SP)

Fine Sand- Trace Silt & Gravel- Brown with Black staining from 18.5 to 19.5 feet- Moist to Wet- Medium Dense to Loose (SP)

Sandy Clay- Some Silt- Trace Gravel- Occasional Sand Seams & Layers- Brown Fine to Medium Sand Layer from 30 to 33 feet- Brown turning Gray at 23 feet- Hard (CL)



Notes:

1. Temporary wells set with screen from 15 to 20 feet & 28 to 33 feet.
2. Permanent well installed in borehole with screen set from 28 to 33 feet.

WATER LEVEL OBSERVATIONS
- GROUNDWATER ENCOUNTERED DURING DRILLING
- GROUNDWATER 0 HOURS AFTER DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004541

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

A/E:
BY: EWN/TRN DATE: 3/22/98
JOB NUMBER: PE21914

BORING B405
SHEET: 1

WELL DIAGRAM

DRILLER: TD RIG: RAU 55

DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (ppm)

GROUND SURFACE ELEVATION = 100.0

LEGEND: O- PID

3 Inches of Bituminous Concrete over 8 Inches of Gravel Fill

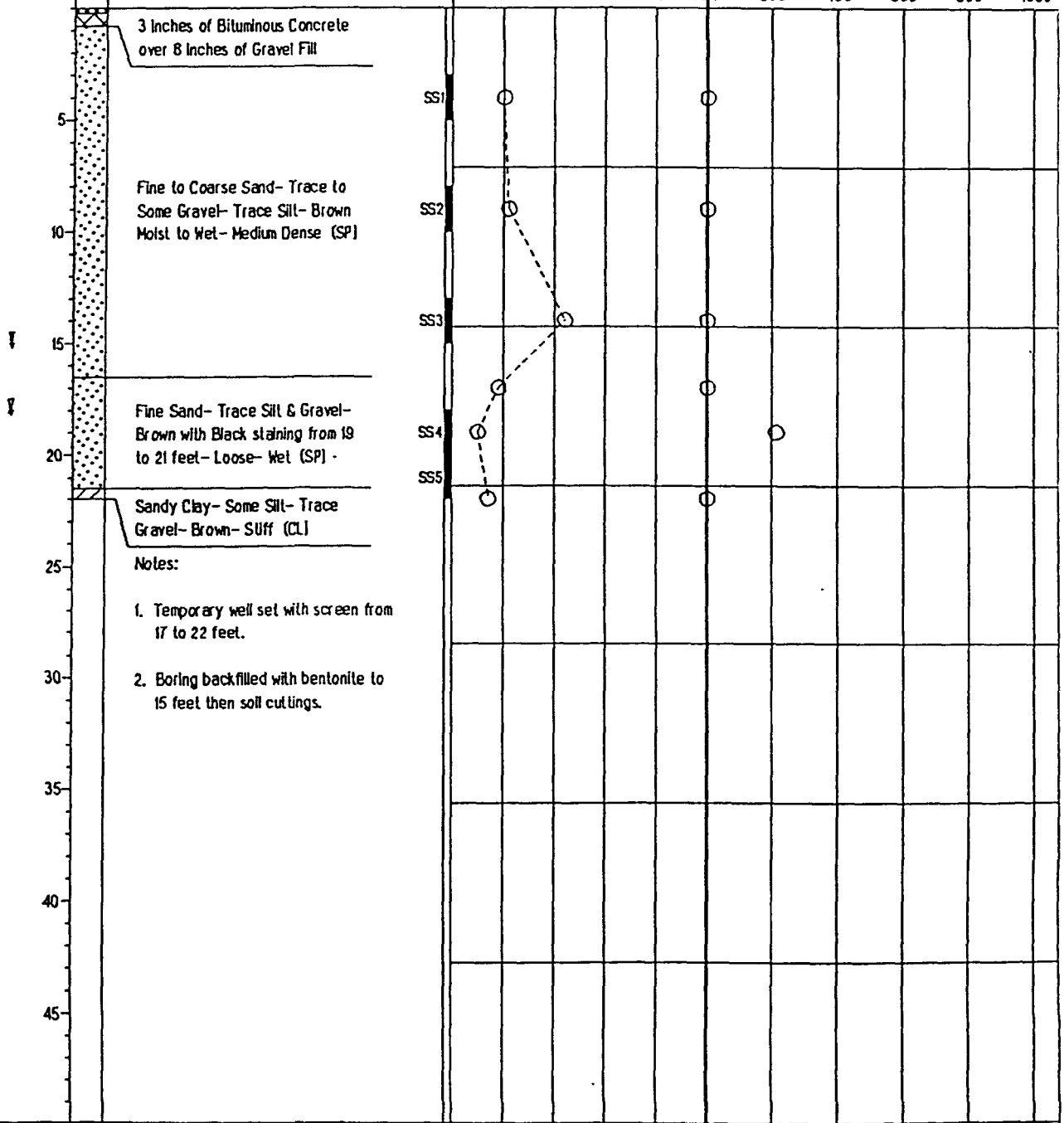
Fine to Coarse Sand- Trace to Some Gravel- Trace Silt- Brown Moist to Wet- Medium Dense (SP)

Fine Sand- Trace Silt & Gravel- Brown with Black staining from 19 to 21 feet- Loose- Wet (SP)

Sandy Clay- Some Silt- Trace Gravel- Brown- Stiff (CL)

Notes:

1. Temporary well set with screen from 17 to 22 feet.
2. Boring backfilled with bentonite to 15 feet then soil cuttings.



WATER LEVEL OBSERVATIONS
▼ GROUNDWATER ENCOUNTERED DURING DRILLING
▽ GROUNDWATER 0 HOURS AFTER DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

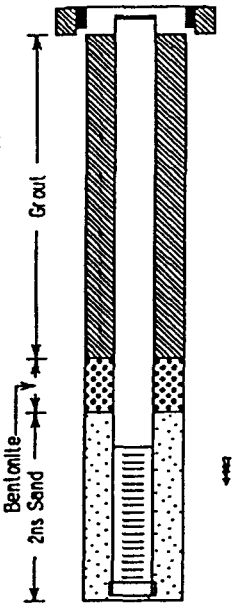
K00004542

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

A/E:
BY: EWN/TRN DATE: 3/25/98 BORING B406/MW406
JOB NUMBER: PE21914 SHEET: 1

WELL DIAGRAM



DRILLER: TD | RIG: RAU 55

DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (ppm)

GROUND SURFACE ELEVATION = 99.8

4 inches of Bituminous Concrete

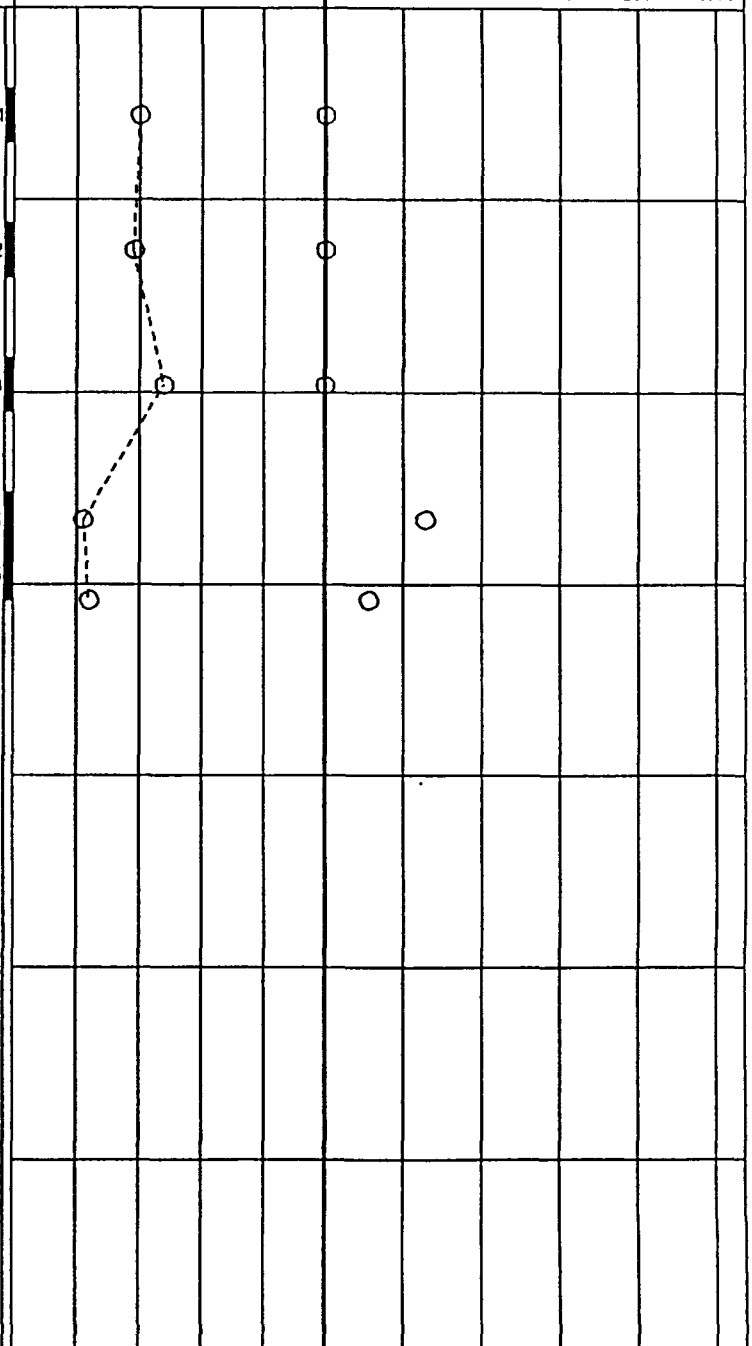
Fine to Coarse Sand- Trace to Some Gravel- Trace Silt- Brown Moist- Medium Dense (SP)

Fine Sand- Trace Silt & Medium Sand- Brown with Black staining from 18.5 to 21 feet- Moist to Wet- Medium Dense (SP)

Sandy Clay- Some Silt- Trace Gravel- Brown- Hard (CL)

Note:

1. Permanent well installed in borehole with screen from 16.5 to 21.5 feet.



WATER LEVEL OBSERVATIONS
GROUNDWATER ENCOUNTERED DURING DRILLING
GROUNDWATER 0 HOURS AFTER DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004543

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

A/E:
BY: NBL DATE: 7/25/96
JOB NUMBER: PE21914

CORE GP1
SHEET: 1

WELL DIAGRAM

DRILLER: SAI RIG:

GROUND SURFACE ELEVATION =

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE, NUMBER & INTERVAL
		4 Inches of Bituminous Concrete	
5		Fine to Coarse Sand-Trace to Some Gravel-Trace Silt-Brown-Moist (SP)	S1
10			S2
15			S3
		Silty Fine Sand-Trace Medium Sand and Clay-Brown-Moist (SP)	S4
20		END OF CORING 20 FEET	
25			

Notes:
1. No groundwater was encountered.

STANDARD PENETRATION - (BLOWS/FOOT)

0 10 20 30 40 50

LEGEND
O- HNU

CONCENTRATION (mg/kg,ppm)

0 10 20 30 40 50

WATER LEVEL OBSERVATIONS
▼ GROUNDWATER ENCOUNTERED DURING DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004544

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

A/E:
BY: NBL DATE: 7/25/96
JOB NUMBER: PE21914

CORE GP2
SHEET: 1

WELL DIAGRAM

DRILLER: SAI RIG:

GROUND SURFACE ELEVATION =

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE, NUMBER & INTERVAL
		4 Inches of Bituminous Concrete	
5		Fine to Coarse Sand-Trace to Some Gravel-Trace Silt-Brown-Moist (SP)	
10			S1
			S2
15		Fine Sand-Trace Silt and Medium Sand-Brown-Moist (SP)	
		END OF CORING 18 FEET	
20			
25			

Notes:
1. No groundwater was encountered.

STANDARD PENETRATION - (BLOWS/FOOT)

0 10 20 30 40 50

LEGEND
O- HNU

CONCENTRATION (mg/kg,ppm)

0 10 20 30 40 50

WATER LEVEL OBSERVATIONS

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU, THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004545

SOIL AND MATERIALS ENGINEERS, INC

JOB NAME: CPCO KALAMAZOO SERVICE CENTER
JOB LOCATION: KALAMAZOO, MICHIGAN
OWNER: CONSUMERS POWER COMPANY

A/E:
BY: NBL DATE: 7/25/96
JOB NUMBER: PE21914

CORE GP3
SHEET: 1

WELL DIAGRAM

DRILLER: SAI RIG:

DEPTH (FEET) | SYMBOLIC PROFILE | PROFILE DESCRIPTION | SAMPLE TYPE, NUMBER & INTERVAL | STANDARD PENETRATION - (BLOWS/FOOT) | CONCENTRATION (mg/kg,ppm)

GROUND SURFACE ELEVATION =

LEGEND: O- HNU

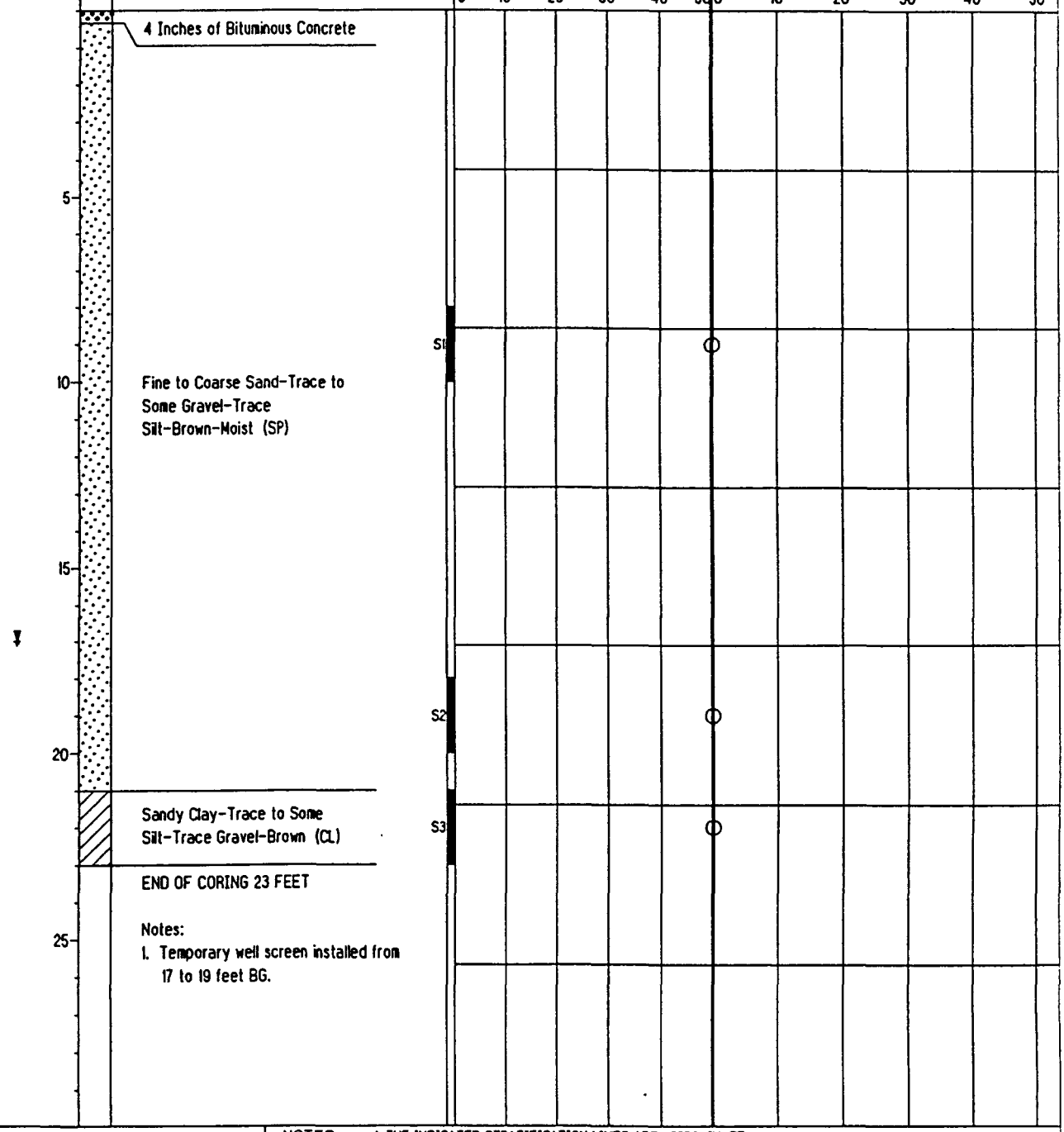
4 Inches of Bituminous Concrete

Fine to Coarse Sand-Trace to Some Gravel-Trace Silt-Brown-Moist (SP)

Sandy Clay-Trace to Some Silt-Trace Gravel-Brown (CL)

END OF CORING 23 FEET

Notes:
1. Temporary well screen installed from 17 to 19 feet BG.



WATER LEVEL OBSERVATIONS

GROUNDWATER ENCOUNTERED DURING DRILLING

NOTES:
1. THE INDICATED STRATIFICATION LINES ARE APPROXIMATE IN SITU. THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL.
2. BORING BACKFILLED WITH NATURAL SOILS UNLESS OTHERWISE NOTED.

K00004546

GEOLOGICAL SURVEY NO.

WATER WELL AND PUMP RECORD

PERMIT NUMBER 7 9 4 2 4

25004 25001

1 LOCATION OF WELL

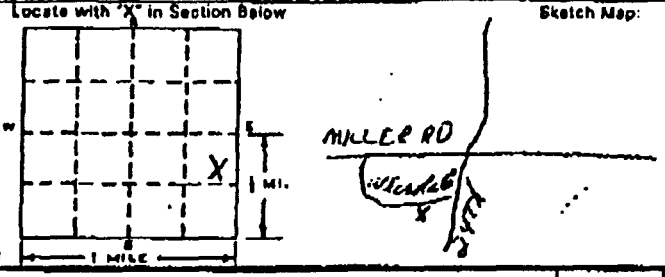
County	Township Name	Fraction	Section Number	Town Number	Range Number
KALAMAZOO	Kalamazoo	SE ¼ NE ¼ SE ¼	25	2 N/S	11 E/W

Distance And Direction From Road Intersection

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



3 OWNER OF WELL:

Address: CLARENCE PIO, 3804 ALLENDALE, KAL

Address Same As Well Location? ☑ Yes ☐ No

4 WELL DEPTH: 90 FT. Date Completed: MO. 2 DAY 11 YEAR 89 ☑ New Well ☐ Replacement Well

5 ☑ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☑ Auger ☐ Jetted ☐

6 USE: ☑ Domestic ☐ Type I Public ☐ Type III Public ☐ Irrigation ☐ Type IIa Public ☐ Heat pump ☐ Test Well ☐ Type IIb Public ☐

7 CASING: Diameter ☑ Steel ☑ Threaded ☐ Plastic ☐ Welded

4 in. to 85 ft. depth

in. to ft. depth

Grouted Drill Hole Diameter 6 in. to 25 ft. depth

in. to ft. depth

Height: Above/Below 833

Surface 1 ft.

Weight lbs./ft.

Drive Shoe ☑ Yes ☐ No

8 SCREEN: ☐ Not Installed

Type JOHNSON Diameter 3"

Slot/Gauze 10 Length 5'

Set between 85 ft. and 90 ft.

FITTINGS: ☑ K-Packer ☐ Lead Packer ☐ Bremer Check ☐ Blank above screen ft. Other

9 STATIC WATER LEVEL: 21 ft. below land surface ☐ Flow

10 PUMPING LEVEL: below land surface

85 ft. after 1 hrs. pumping at 30 G.P.M.

ft. after hrs. pumping at G.P.M.

11 WELL HEAD COMPLETION: ☐ Pitless adapter ☑ 12" above grade ☐ Basement offset ☐ Approved pit

12 WELL GROUTED? ☐ No ☑ Yes From 0 to 25 ft.

☐ Neat cement ☑ Bentonite ☐ Other Bon Seal

No. of bags of cement 3 Additives

13 Nearest source of possible contamination

Type Sewage Distance 50+ ft. Direction W

Well disinfected upon completion? ☑ Yes ☐ No

Was old well plugged? ☐ Yes ☐ No

14 PUMP: ☐ Not Installed ☐ Pump Installation Only

Manufacturer's name

Model number HP Volts

Length of Drop Pipe ft. capacity G.P.M.

TYPE: ☐ Submersible ☐ Jet

PRESSURE TANK:

Manufacturer's name

Model number Capacity Gallons

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
sand & clay	8	8
hard brown clay	15	23
soft brown clay	21	44
sand & gravel	11	55
hard blue clay & gravel	20	75
fine sand	6	81
sand & gravel	9	90

Sampled - 7-13-89

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.

16. WATER WELL CONTRACTOR'S CERTIFICATION:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Smith Well & Pump 08-1793

REGISTERED BUSINESS NAME REGISTRATION NO.

Address 2300 Fine Lk Rath Cmt

Signed

17. Rig Operator's Name: Mike Smith

WELLID: 39721125001
X_COORD: 1675403.48
Y_COORD: 280875.29
ADD: 3804 ALLENDALE
ELEV: 830.00 DEPTH: 90.0

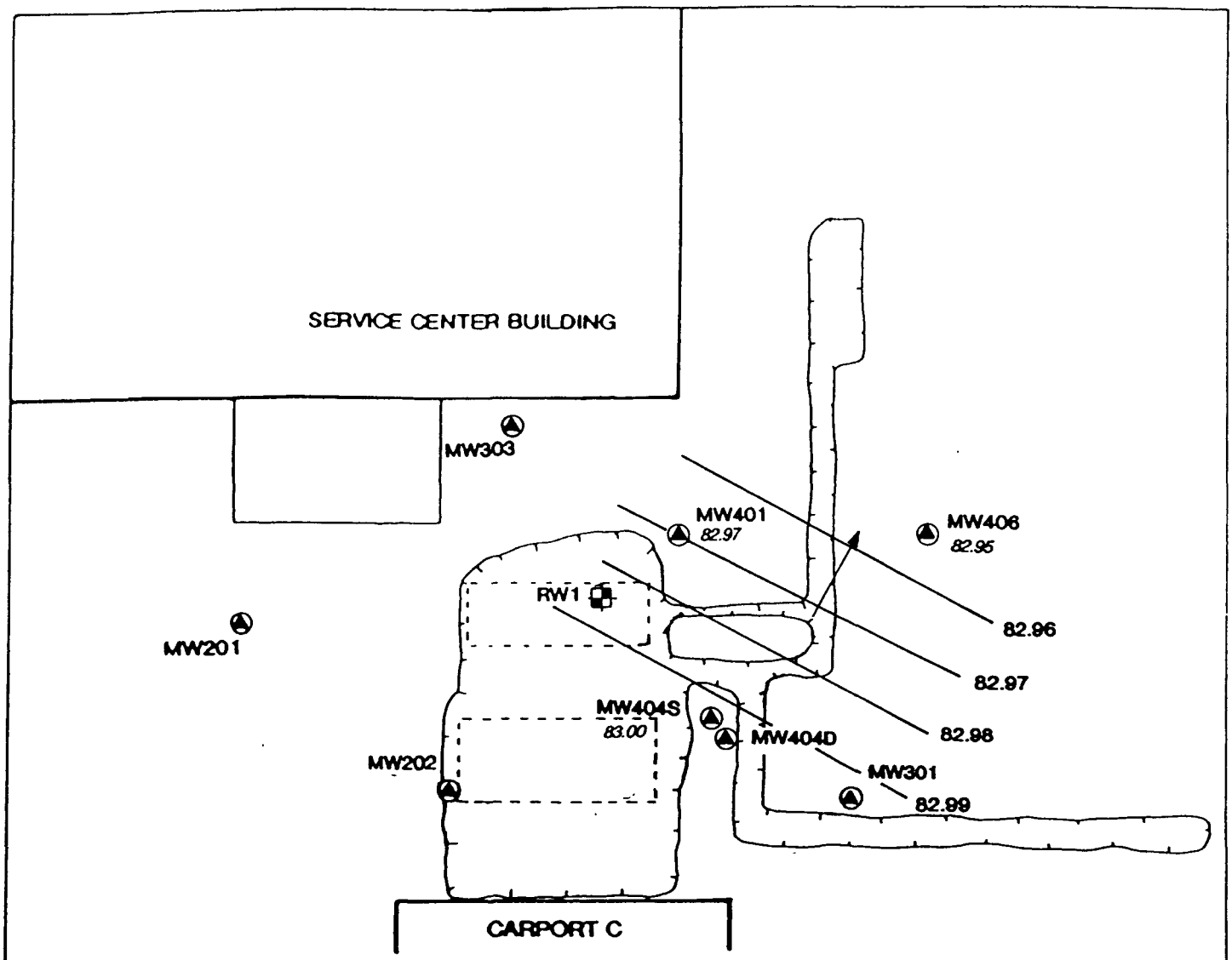
K00004547

LOCAL HEALTH DEPT

17d 12/85

ATTACHMENT NO. 11

GROUNDWATER FLOW MAPS SHOWING WATER LEVEL MEASUREMENT LOCATIONS



LEGEND

RECOVERY WELL

MONITORING WELL

MW401 82.97 — GROUNDWATER ELEVATION SURVEYED WITH RESPECT TO ARBITRARY DATUM = 100 FT.

GROUNDWATER FLOW DIRECTION

CI = 0.01 FEET

FORMER UST SYSTEMS EXCAVATION

SCALE IN FEET

0 10 20 40

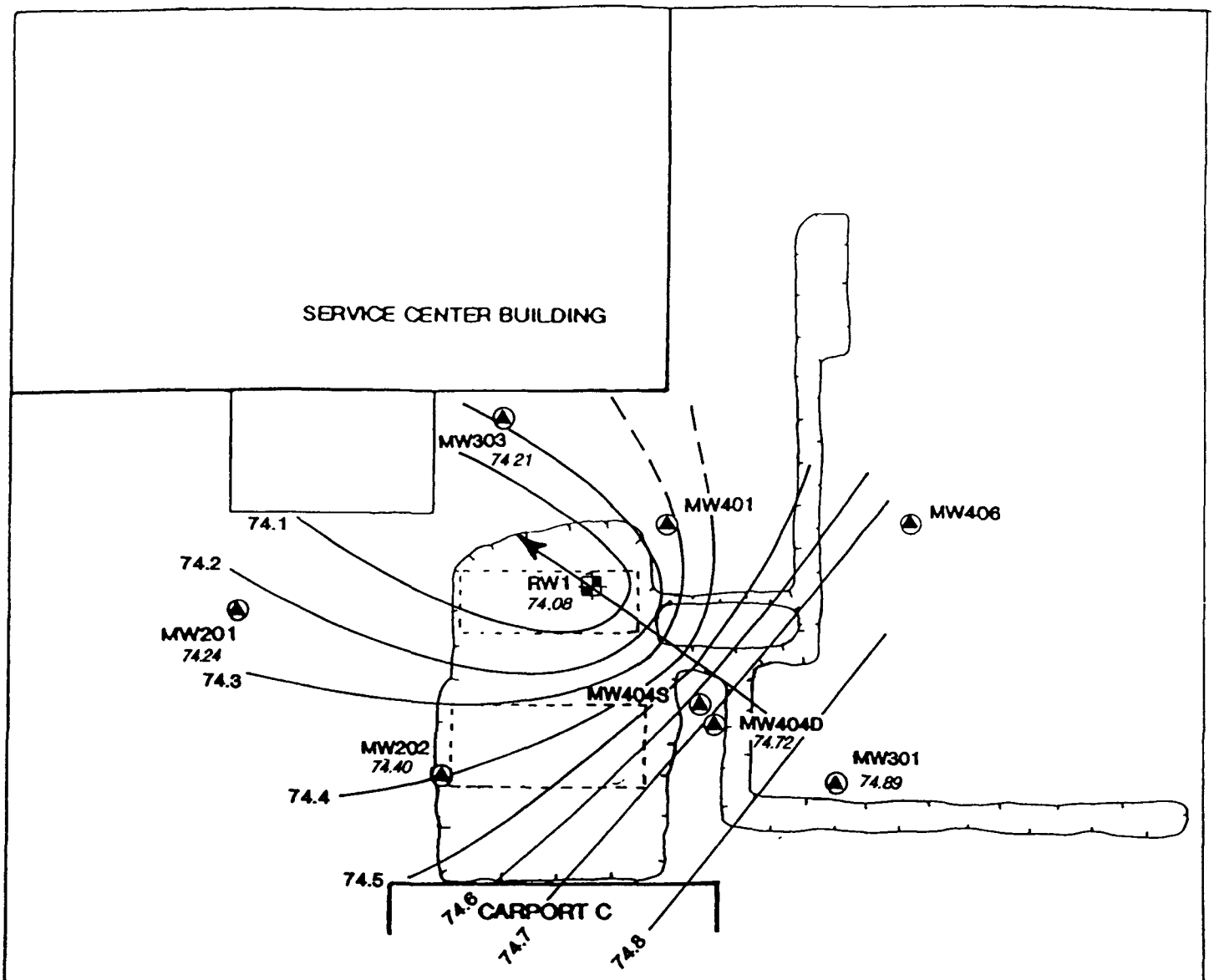
NORTH

Date 8-21-96	BAY CITY	soil and materials engineers, inc	GROUNDWATER ELEVATION CONTOUR DIAGRAM
Drawn By TAC	KALAMAZOO		UPPER GROUNDWATER UNIT
Scale 1" = 20'	LANSING		JUNE 21, 1996
Job PE 21914	PLYMOUTH		CONSUMERS POWER COMPANY
	TOLEDO		KALAMAZOO SERVICE CENTER
			KALAMAZOO, MICHIGAN

DWG NO 21914-27

Figure No.11-A

K00004549



LEGEND

RECOVERY WELL

MONITORING WELL

MW301 74.89 GROUNDWATER ELEVATION SURVEYED WITH RESPECT TO ARBITRARY DATUM = 100 FT.

GROUNDWATER FLOW DIRECTION

CI = 0.1 FEET

FORMER UST SYSTEMS EXCAVATION

SCALE IN FEET

0 10 20 40

NORTH

Date 8-21-96	BAY CITY	soil and materials engineers, inc	GROUNDWATER ELEVATION CONTOUR DIAGRAM LOWER GROUNDWATER UNIT JUNE 21, 1996 CONSUMERS POWER COMPANY KALAMAZOO SERVICE CENTER KALAMAZOO, MICHIGAN
Drawn By TAC	KALAMAZOO		
Scale 1" = 20'	LANSING		
Job PE 21914	PLYMOUTH		
	TOLEDO		

DWG NO 21914-28

Figure No. 11-B

K00004550

ATTACHMENT NO. 14

LABORATORY RESULTS TABLE FOR GROUNDWATER

ATTACHMENT NO. 14
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	MW-201		MW-202		MW-301		MW-303		MW-401	
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		6/21/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	6/27/96		6/27/96		6/27/96		6/27/96		6/27/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8021A		8021A		8021A		8021A		8021A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	1	1	<1	1	<1	1	1	1	6	1
Toluene	2	1	<1	1	<1	1	5	1	1,300	1
Ethylbenzene	<1	1	<1	1	<1	1	3	1	630	1
Total Xylenes	1	3	<3	3	1	3	44	3	5,900	3
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-201		MW-202		MW-301		MW-303		MW-401	
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		6/21/96	
Date Extracted	6/27/96		6/27/96		6/27/96		6/27/96		6/27/96	
Date Analyzed	7/2/96		7/2/96		7/2/96		7/2/96		7/2/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8270A		8270A		8270A		8270A		8270A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5	<5	5	<5	5	<5	5	<5	5
Acenaphthylene	<5	5	<5	5	<5	5	<5	5	<5	5
Anthracene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(a)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(a)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(b)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(g,h,i)perylene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(k)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Chrysene	<5	5	<5	5	<5	5	<5	5	<5	5
Dibenzo(a,h)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:
MDL = Method Detection Limit

K00004552

ATTACHMENT NO. 14
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER0-017371

DUPLICATE TABLE AS NEEDED

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-201		MW-202		MW-301		MW-303		MW-401	
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		6/21/96	
Date Extracted	6/27/96		6/27/96		6/27/96		6/27/96		6/27/96	
Date Analyzed	7/2/96		7/2/96		7/2/96		7/2/96		7/2/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8270A		8270A		8270A		8270A		8270A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Fluorene	<5	5	<5	5	<5	5	<5	5	<5	5
Indeno(1,2,3- cd)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
2-Methylnaphtalene	<5	5	<5	5	<5	5	<5	5	52	5
Naphthalene	<5	5	<5	5	<5	5	<5	5	120	5
Phenanthrene	<5	5	<5	5	<5	5	<5	5	<5	5
Pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
METALS - FILTERED										
Sample ID	MW-201		MW-202		MW-301		MW-303		MW-401	
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		6/21/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	6/26/96		6/26/96		6/26/96		6/26/96		6/26/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	7421		7421		7421		7421		7421	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	<3	3	<3	3	<3	3	3	3	19	3

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:
MDL = Method Detection Limit

K000004553

ATTACHMENT NO. 14
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER0-017371

VOLATILES										
Sample ID	MW-404S		MW404D		MW-406		RW-1		GP-3	
Sample Depth (feet BGS)									17-19	
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		7/25/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	6/27/96		6/27/96		6/27/96		6/27/96		7/31/96	
Collection Method*	BL		BL		BL		BL		GP	
Analytical Method No.	8021A		8021A		8021A		8021A		8021A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	3	1	<1	1	10	1	2	1	<1	1
Toluene	10	1	<1	1	52	1	2	1	<1	1
Ethylbenzene	32	1	2	1	710	1	20	1	<1	1
Total Xylenes	261	3	<1	3	1,750	3	45	3	<1	3
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-404S		MW404D		MW-406		RW-1		GP-3	
Sample Depth (feet BGS)									17-19	
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		7/25/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	7/2/96		7/2/96		7/2/96		7/2/96		8/1/96	
Collection Method*	BL		BL		BL		BL		GP	
Analytical Method No.	8270A		8270A		8270A		8270A		8270A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5	<5	5	<5	5	<5	5	<5	5
Acenaphthylene	<5	5	<5	5	<5	5	<5	5	<5	5
Anthracene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(a)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(a)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(b)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(g,h,i)perylene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(k)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Chrysene	<5	5	<5	5	<5	5	<5	5	<5	5
Dibenzo(a,h)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:
MDL = Method Detection Limit

K00004554

ATTACHMENT NO. 14
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER0-017371

DUPLICATE TABLE AS NEEDED

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-404S		MW404D		MW-406		RW-1		GP-3	
Sample Depth (feet BGS)									17-19	
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		7/25/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	7/2/96		7/2/96		7/2/96		7/2/96		8/1/96	
Collection Method*	BL		BL		BL		BL		GP	
Analytical Method No.	8270A		8270A		8270A		8270A		8270A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Fluorene	<5	5	<5	5	<5	5	<5	5	<5	5
Indeno(1,2,3- cd)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
2-Methylnaphtalene	5	5	<5	5	7	5	<5	5	52	5
Naphthalene	11	5	<5	5	32	5	5	5	120	5
Phenanthrene	<5	5	<5	5	<5	5	<5	5	<5	5
Pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
METALS - FILTERED										
Sample ID	MW-404S		MW404D		MW-406		RW-1		GP-3	
Sample Depth (feet BGS)									17-19	
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		7/25/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	6/26/96		6/26/96		6/26/96		6/26/96		7/30/96	
Collection Method*	BL		BL		BL		BL		GP	
Analytical Method No.	7421		7421		7421		7421		7421	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	10	3	<3	3	<3	3	<3	3	<3	3

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:
MDL = Method Detection Limi

K000045555

ATTACHMENT NO. 15

TIER I RBSL/TIER II OR TIER III SSTL COMPARISON TABLE FOR GROUNDWATER

MICHIGAN DEPARMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 15
TIER I RBSL/TIER II OR TIER III SSTL COMPARISON TABLE
FOR GROUNDWATER
FACILITY NAME CPCo - Kalamazoo Service Center
FACILITY NUMBER 0-017371

Residential X Commercial Industrial

Exposure Codes
A. Potable B. Groundwater/Surface Water Interface

Contaminant	Sample ID with Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (ug/l)	Applicable Criterion with Exposure Code (ug/l)		Criterion Exceeded? (Yes or No)	
				Tier I RBSL	Tier II/III SSTL	Tier I RBSL	Tier II/III SSTL
VOLATILES							
Benzene	MW204/RW1	5-22-95	26	5	-	YES	-
Toluene	MW204/RW1	5-22-95	1,700	790	-	YES	-
Ethylbenzene	MW204/RW1	5-22-95	1,800	74	-	YES	-
Total Xylenes	MW204/RW1	5-22-95	8,800	280	-	YES	-
MTBE							
POLYNUCLEAR AROMATICS (PNAs)							
Acenaphthene	MW204/RW1	5-22-95	10,000	1,300	-	YES	-
Acenaphthylene	MW204/RW1	5-22-95	55	7,300	-	NO	-
Anthracene			<5				
Benzo(a)anthracene			<5				
Benzo(a)pyrene			<5				
Benzo(b)fluoranthene			<5				
Benzo(g,h,i)perylene			<5				
Benzo(k)fluoranthene			<5				
Chrysene			<5				
Dibenzo- (a,h)anthracene			<5				
Fluoranthene	MW204/RW1	12/27/95	32	880	-	NO	-
Fluorene	MW204/RW1	5/22/95	22,000	880	-	YES	-
Indeno(1,2,3-cd)pyrene			<5				
Naphthalene	MW204/RW1	5/22/95	910	260	-	YES	-
Phenanthrene							
Pyrene	MW204/RW1	12/27/95	78	550	-	NO	-

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:
MDL = Method Detection Limit

K0000455?

ATTACHMENT NO. 15
TIER I RBSL/TIER II OR TIER III SSTL COMPARISON TABLE
FOR GROUNDWATER
FACILITY NAME CPCo - Kalamazoo Service Center
FACILITY NUMBER 0-017371

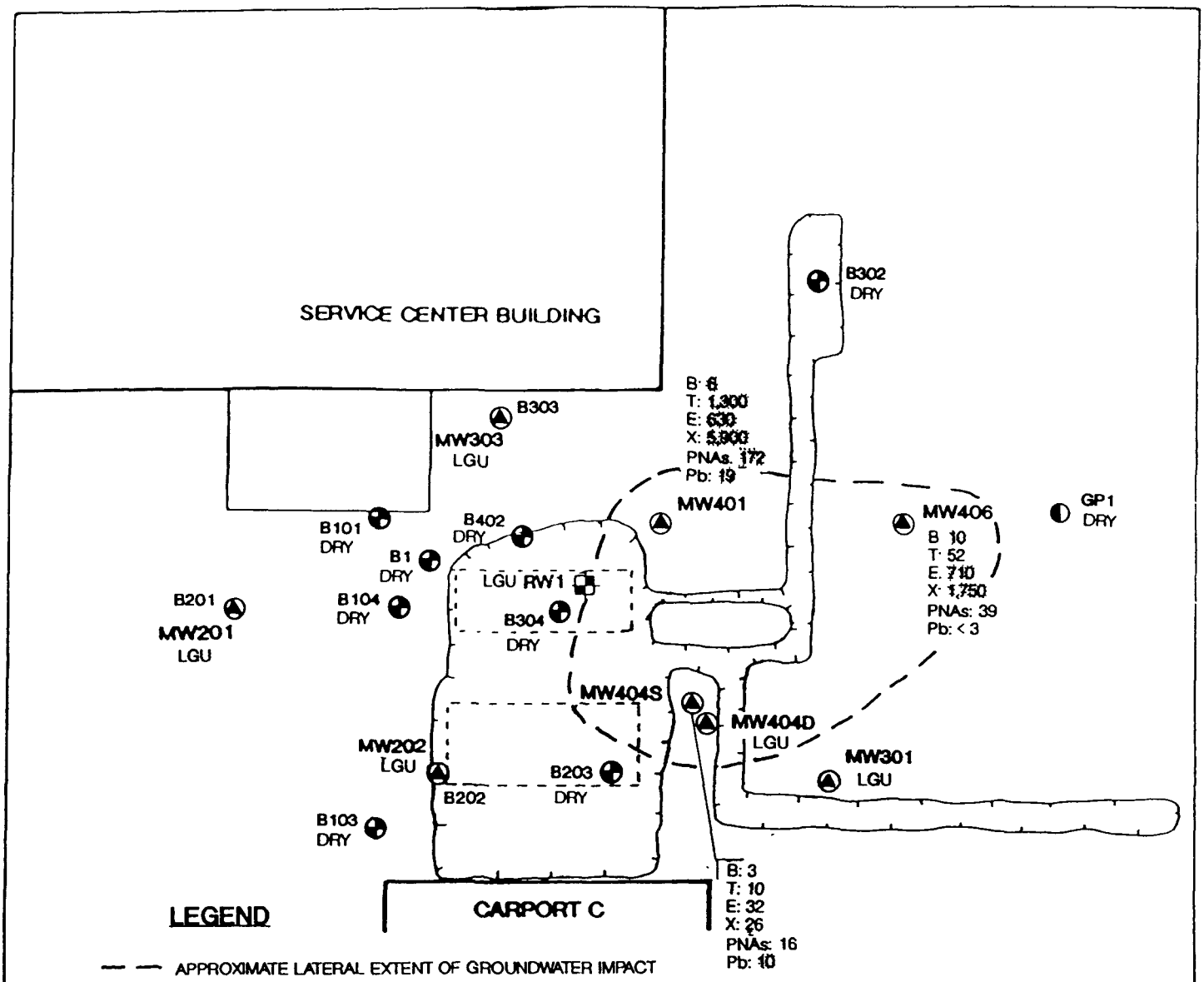
Contaminant	Sample ID with Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (ug/l)	Applicable Criterion with Exposure Code (ug/l)		Criterion Exceeded? (Yes or No)	
				Tier I RBSL	Tier II/III SSTL	Tier I RBSL	Tier II/III SSTL
METALS - FILTERED							
Cadmium							
Chromium III							
Chromium VI							
Total Lead	MW204/RW1	12-27-95	64	4	-	YES	-
PCBs							
Aroclor 1016							
Aroclor 1221							
Aroclor 1232							
Aroclor 1242							
Aroclor 1248							
Aroclor 1254							
Aroclor 1280							
HALOGENATED HYDROCARBONS							
Carbon Tetrachloride							
1,1-Dichloroethane							
1,2-Dichloroethane							
1,1-Dichloroethylene							
cis-1,2-Dichloroethylene							
trans-1,2-Dichloroethylene							
Tetrachloroethylene							
1,1,2-Trichloroethane							
OTHER *							
2-Methylnaphthalene	MW204/RW1	5-22-95	780	260	-	YES	-

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:
MDL = Method Detection Limit

K000004558

ATTACHMENT NO. 16

SITE MAPS SHOWING GROUNDWATER SAMPLING LOCATIONS, MAXIMUM CONTAMINANT CONCENTRATIONS, AND LOCATION OF CONTAMINANT PLUME



LEGEND

— — APPROXIMATE LATERAL EXTENT OF GROUNDWATER IMPACT

LGU – MONITORING WELL SCREENED IN LOWER GROUNDWATER UNIT

DRY – NO GROUNDWATER ENCOUNTERED

RECOVERY WELL

SOIL BORING

MONITORING WELL

B – BENZENE

T – TOLUENE

E – ETHYL BENZENE

X – XYLENES

PNAs – POLYNUCLEAR AROMATIC HYDROCARBONS

Pb – DISSOLVED LEAD

FORMER UST SYSTEMS EXCAVATION

GEOPROBE

NOTES:

1. GROUNDWATER SAMPLES OBTAINED ON JUNE 21, 1996.
2. ALL CONCENTRATIONS REPORTED IN PARTS PER BILLION (ppb OR ug/l).
3. SHADING INDICATES CONCENTRATIONS EXCEEDING TIER 1 RESIDENTIAL CRITERIA.

SCALE IN FEET

0 10 20 40

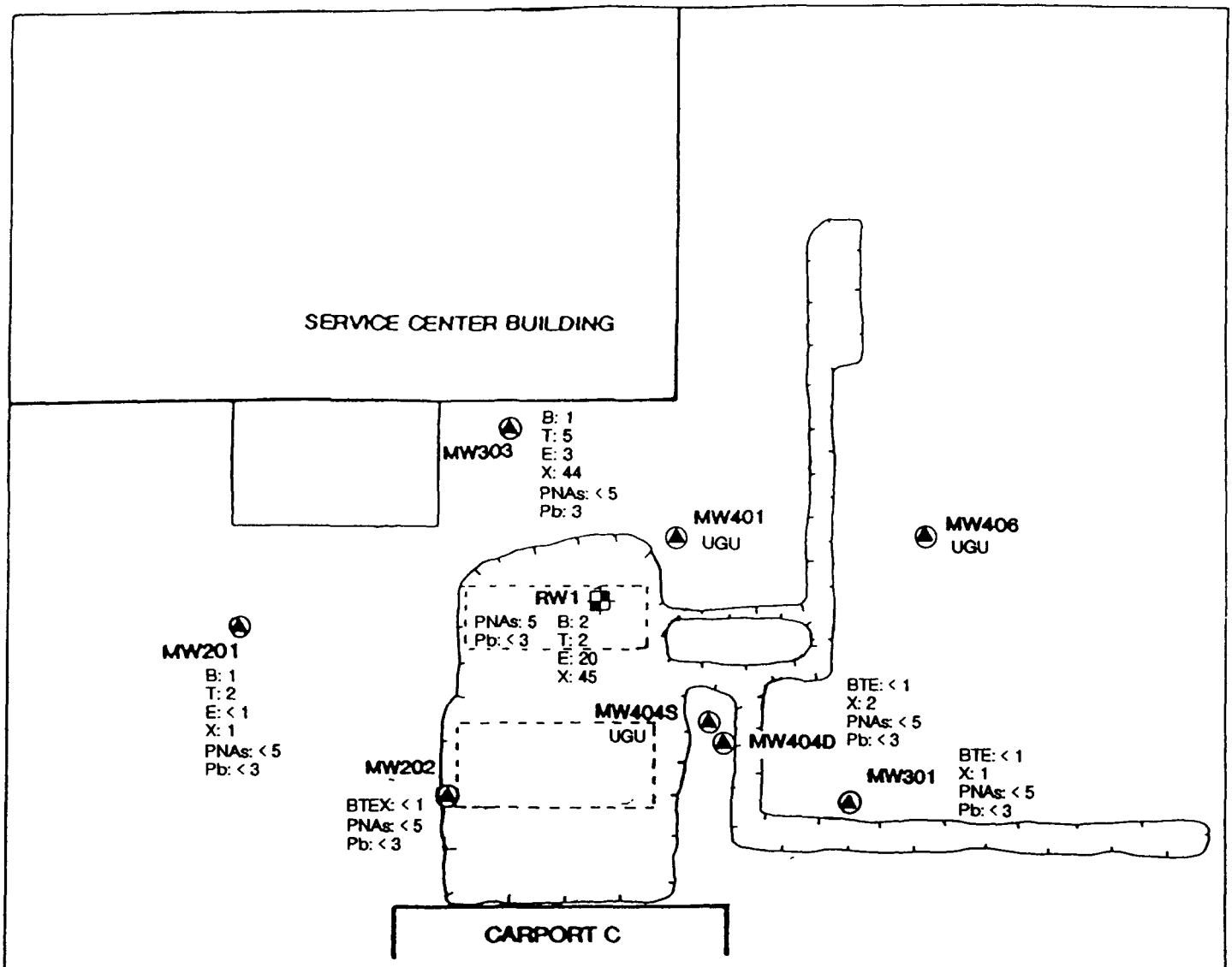
NORTH

Date 8-21-96	BAY CITY	soil and materials engineers, inc	GROUNDWATER ANALYTICAL RESULTS DIAGRAM
Drawn By TAC	KALAMAZOO		UPPER GROUNDWATER UNIT
Scale 1" = 20'	LANSING		BTEX, PNAs, AND LEAD
Job PE 21914	PLYMOUTH		CONSUMERS POWER COMPANY
	TOLEDO		KALAMAZOO SERVICE CENTER
			KALAMAZOO, MICHIGAN

DWG NO 21914-29

K00004560

Figure No 16-A



LEGEND

UGU – MONITORING WELL SCREENED IN UPPER GROUNDWATER UNIT

RECOVERY WELL

MONITORING WELL

B – BENZENE

T – TOLUENE

E – ETHYL BENZENE

X – XYLENES

PNAs – POLYNUCLEAR AROMATIC HYDROCARBONS

Pb – DISSOLVED LEAD

FORMER UST SYSTEMS EXCAVATION

NOTES:

1. GROUNDWATER SAMPLES OBTAINED ON JUNE 21, 1996.
2. ALL CONCENTRATIONS REPORTED IN PARTS PER BILLION (ppb OR ug/l).
3. SHADING INDICATES CONCENTRATIONS EXCEEDING TIER 1 RESIDENTIAL CRITERIA.

SCALE IN FEET

0 10 20 40

NORTH

Date 8-21-96 Drawn By TAC Scale 1" = 20' Job PE 21914	BAY CITY KALAMAZOO LANSING PLYMOUTH TOLEDO	soil and materials engineers, inc	GROUNDWATER ANALYTICAL RESULTS DIAGRAM LOWER GROUNDWATER UNIT BTEX, PNAs, AND LEAD CONSUMERS POWER COMPANY KALAMAZOO SERVICE CENTER KALAMAZOO, MICHIGAN

DWG NO 21914-30

K00004561

Figure No. 16–B

ATTACHMENT NO. 18

PRESENTATION OF TIME SERIES GROUNDWATER RESULTS

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	B304-GW									
Sample Depth (feet BGS)										
Date Collected	5/15/95									
Date Extracted	-									
Date Analyzed	5/23/95									
Collection Method*	BL									
Analytical Method No.	8021									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	12	1								
Toluene	76	1								
Ethylbenzene	110	1								
Total Xylenes	880	1								
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	B304-GW									
Sample Depth (feet BGS)										
Date Collected	5/15/95									
Date Extracted	-									
Date Analyzed	5/25/95									
Collection Method*	BL									
Analytical Method No.	8270									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5								
Acenaphthylene	<5	5								
Anthracene	<5	5								
Benzo(a)anthracene	<5	5								
Benzo(a)pyrene	<5	5								
Benzo(b)fluoranthene	<5	5								
Benzo(g,h,i)perylene	<5	5								
Benzo(k)fluoranthene	<5	5								
Chrysene	<5	5								
Dibenzo(a,h)anthracene	<5	5								

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K000004563

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	B304-GW									
Sample Depth (feet BGS)										
Date Collected	5/15/95									
Date Extracted	-									
Date Analyzed	5/25/95									
Collection Method*	BL									
Analytical Method No.	8270									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5								
Fluorene	5	5								
Indeno(1,2,3- cd)pyrene	<5	5								
Naphthalene	12	5								
2-Methylnaphtalene	<5	5								
Phenanthrene	8	5								
Pyrene	<5	5								
METALS - FILTERED										
Sample ID	B304-GW									
Sample Depth (feet BGS)										
Date Collected	5/15/95									
Date Extracted	-									
Date Analyzed	5/31/95									
Collection Method*	BL									
Analytical Method No.	7421									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	<3	3								

K00004564

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	MW-201		MW-202							
Sample Depth (feet BGS)										
Date Collected	2/17/95		2/17/95							
Date Extracted	-		-							
Date Analyzed	2/23/95		2/23/95							
Collection Method*	BL		BL							
Analytical Method No.	8021		8021							
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	<1	1	<1	1						
Toluene	<1	1	<1	1						
Ethylbenzene	<1	1	<1	1						
Total Xylenes	<1	1	<1	1						
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-201		MW-202							
Sample Depth (feet BGS)										
Date Collected	2/17/95		2/17/95							
Date Extracted	-		-							
Date Analyzed	2/22/95		2/22/95							
Collection Method*	BL		BL							
Analytical Method No.	8270		8270							
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5	<5	5						
Acenaphthylene	<5	5	<5	5						
Anthracene	<5	5	<5	5						
Benzo(a)anthracene	<5	5	<5	5						
Benzo(a)pyrene	<5	5	<5	5						
Benzo(b)fluoranthene	<5	5	<5	5						
Benzo(g,h,i)perylene	<5	5	<5	5						
Benzo(k)fluoranthene	<5	5	<5	5						
Chrysene	<5	5	<5	5						
Dibenzo(a,h)anthracene	<5	5	<5	5						

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K0000045565

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-201		MW-202							
Sample Depth (feet BGS)										
Date Collected	2/17/95		2/17/95							
Date Extracted	-		-							
Date Analyzed	2/22/95		2/22/95							
Collection Method*	BL		BL							
Analytical Method No.	8270		8270							
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5	<5	5						
Fluorene	<5	5	<5	5						
Indeno(1,2,3- cd)pyrene	<5	5	<5	5						
Naphthalene	<5	5	<5	5						
2-Methylnaphtalene	<5	5	<5	5						
Phenanthrene	<5	5	<5	5						
Pyrene	<5	5	<5	5						
METALS - FILTERED										
Sample ID	MW-201		MW-202							
Sample Depth (feet BGS)										
Date Collected	2/17/95		2/17/95							
Date Extracted	-		-							
Date Analyzed	2/23/95		2/23/95							
Collection Method*	BL		BL							
Analytical Method No.	7421		7421							
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	<3	3	<3	3						

K000004566

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	B102									
Sample Depth (feet BGS)	13-15									
Date Collected	12/23/94									
Date Extracted										
Date Analyzed	12/30/94									
Collection Method*	BL									
Analytical Method No.	8270									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5								
Fluorene	<5	5								
Indeno(1,2,3- cd)pyrene	<5	5								
Naphthalene	<5	5								
2-Methylnaphtalene	<5	5								
Phenanthrene	<5	5								
Pyrene	<5	5								
METALS - FILTERED										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead										

K00004567

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	B102									
Sample Depth (feet BGS)	13-15									
Date Collected	12/23/94									
Date Extracted	-									
Date Analyzed	12/28/94									
Collection Method*	BL									
Analytical Method No.	8021									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	<1	1								
Toluene	<1	1								
Ethylbenzene	<1	1								
Total Xylenes	<1	1								
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	B102									
Sample Depth (feet BGS)	13-15									
Date Collected	12/23/94									
Date Extracted										
Date Analyzed	12/30/94									
Collection Method*	BL									
Analytical Method No.	8270									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5								
Acenaphthylene	<5	5								
Anthracene	<5	5								
Benzo(a)anthracene	<5	5								
Benzo(a)pyrene	<5	5								
Benzo(b)fluoranthene	<5	5								
Benzo(g,h,i)perylene	<5	5								
Benzo(k)fluoranthene	<5	5								
Chrysene	<5	5								
Dibenzo(a,h)anthracene	<5	5								

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K00004568

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	B2									
Sample Depth (feet BGS)										
Date Collected	12/8/94									
Date Extracted	-									
Date Analyzed	12/13/94									
Collection Method*	BL									
Analytical Method No.	8021									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	<1	1								
Toluene	1	1								
Ethylbenzene	<1	1								
Total Xylenes	1	1								
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	B2									
Sample Depth (feet BGS)										
Date Collected	12/8/94									
Date Extracted	-									
Date Analyzed	12/13/94									
Collection Method*	BL									
Analytical Method No.	8270									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5								
Acenaphthylene	<5	5								
Anthracene	<5	5								
Benzo(a)anthracene	<5	5								
Benzo(a)pyrene	<5	5								
Benzo(b)fluoranthene	<5	5								
Benzo(g,h,i)perylene	<5	5								
Benzo(k)fluoranthene	<5	5								
Chrysene	<5	5								
Dibenzo(a,h)anthracene	<5	5								

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K000004569

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	B2									
Sample Depth (feet BGS)										
Date Collected	12/8/94									
Date Extracted	-									
Date Analyzed	12/13/94									
Collection Method*	BL									
Analytical Method No.	8270									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5								
Fluorene	<5	5								
Indeno(1,2,3- cd)pyrene	<5	5								
Naphthalene	<5	5								
2-Methylnaphtalene	<5	5								
Phenanthrene	<5	5								
Pyrene	<5	5								
METALS - FILTERED										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead										

K0000045570

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	MW-201		MW-202		MW-204		MW-303		MW-301	
Sample Depth (feet BGS)										
Date Collected	5/22/95		5/22/95		5/22/95		5/22/95		5/22/95	
Date Extracted	-		-		-		-		-	
Date Analyzed	5/26/95		5/26/95		5/26/95		5/26/95		5/26/95	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8021		8021		8021		8021		8021	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	<1	1	<1	1	26	1	<1	1	<1	1
Toluene	<1	1	<1	1	1,700	1	<1	1	<1	1
Ethylbenzene	<1	1	<1	1	1,800	1	<1	1	<1	1
Total Xylenes	<1	1	3.5	1	8,500	1	2	1	<1	1
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-201		MW-202		MW-204		MW-303		MW-301	
Sample Depth (feet BGS)										
Date Collected	5/22/95		5/22/95		5/22/95		5/22/95		5/22/95	
Date Extracted	-		-		-		-		-	
Date Analyzed	5/26/95		5/26/95		5/26/95		5/26/95		5/26/95	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8270		8270		8270		8270		8270	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5	<5	5	10,000	5	<5	5	<5	5
Acenaphthylene	<5	5	<5	5	3,700	5	<5	5	<5	5
Anthracene	<5	5	<5	5	55	5	<5	5	<5	5
Benzo(a)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(a)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(b)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(g,h,i)perylene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(k)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Chrysene	<5	5	<5	5	<5	5	<5	5	<5	5
Dibenzo(a,h)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K0000045571

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-201		MW-202		MW-204		MW-303		MW-301	
Sample Depth (feet BGS)										
Date Collected	5/22/95		5/22/95		5/22/95		5/22/95		5/22/95	
Date Extracted	-		-		-		-		-	
Date Analyzed	5/26/95		5/26/95		5/26/95		5/26/95		5/26/95	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8270		8270		8270		8270		8270	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Fluorene	<5	5	<5	5	22,000	5	<5	5	<5	5
Indeno(1,2,3- cd)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
Naphthalene	<5	5	<5	5	910	5	<5	5	<5	5
2-Methylnaphtalene	<5	5	<5	5	780	5	<5	5	<5	5
Phenanthrene	<5	5	<5	5	780	5	<5	5	<5	5
Pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
METALS - FILTERED										
Sample ID	MW-201		MW-202		MW-204		MW-303		MW-301	
Sample Depth (feet BGS)										
Date Collected	5/22/95		5/22/95		5/22/95		5/22/95		5/22/95	
Date Extracted	-		-		-		-		-	
Date Analyzed	6/2/95		6/2/95		6/2/95		6/2/95		6/2/95	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	7421		7421		7421		7421		7421	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	<3	3	<3	3	59	3	<3	3	<3	3

K0000457 2

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	MW-202		MW-301		MW-201		MW-303			
Sample Depth (feet BGS)										
Date Collected	9/21/95		9/21/95		9/21/95		9/21/95			
Date Extracted	-		-		-		-			
Date Analyzed	9/27/95		9/27/95		9/27/95		9/27/95			
Collection Method*	BL		BL		BL		BL			
Analytical Method No.	8021		8021		8021		8021			
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	<1	1	<1	1	<1	1	<1	1		
Toluene	<1	1	<1	1	<1	1	<1	1		
Ethylbenzene	<1	1	<1	1	<1	1	<1	1		
Total Xylenes	<1	1	<1	1	<1	1	<1	1		
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene										
Acenaphthylene										
Anthracene										
Benzo(a)anthracene										
Benzo(a)pyrene										
Benzo(b)fluoranthene										
Benzo(g,h,i)perylene										
Benzo(k)fluoranthene										
Chrysene										
Dibenzo(a,h)anthracene										

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K000004573

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	MW-201		MW-202		MW-204		MW-301		MW-303	
Sample Depth (feet BGS)										
Date Collected	12/27/95		12/27/95		12/27/95		12/27/95		12/27/95	
Date Extracted	-		-		-		-		-	
Date Analyzed	1/2/96		1/2/96		1/2/96		1/2/96		1/2/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8021A		8021A		8021A		8021A		8021A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	<1	1	<1	1	14	1	<1	1	<1	1
Toluene	<1	1	<1	1	350	1	<1	1	<1	1
Ethylbenzene	<1	1	<1	1	550	1	<1	1	<1	1
Total Xylenes	<1	1	<1	1	3,800	1	<1	1	<1	1
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-201		MW-202		MW-204		MW-301		MW-303	
Sample Depth (feet BGS)										
Date Collected	12/27/95		12/27/95		12/27/95		12/27/95		12/27/95	
Date Extracted	-		-		-		-		-	
Date Analyzed	12/30/95		12/30/95		12/30/95		12/30/95		12/30/95	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8270A		8270A		8270A		8270A		8270A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5	<5	5	8,400	5	<5	5	<5	5
Acenaphthylene	<5	5	<5	5	190	5	<5	5	<5	5
Anthracene	<5	5	<5	5	25	5	<5	5	<5	5
Benzo(a)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(a)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(b)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(g,h,i)perylene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(k)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Chrysene	<5	5	<5	5	<5	5	<5	5	<5	5
Dibenzo(a,h)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K00004574

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-201		MW-202		MW-204		MW-301		MW-303	
Sample Depth (feet BGS)										
Date Collected	12/27/95		12/27/95		12/27/95		12/27/95		12/27/95	
Date Extracted	-		-		-		-		-	
Date Analyzed	12/30/95		12/30/95		12/30/95		12/30/95		12/30/95	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8270A		8270A		8270A		8270A		8270A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5	<5	5	32	5	<5	5	<5	
Fluorene	<5	5	<5	5	1,400	5	<5	5	<5	
Indeno(1,2,3- cd)pyrene	<5	5	<5	5	<5	5	<5	5	<5	
Naphthalene	<5	5	<5	5	600	5	<5	5	<5	
2-Methylnaphtalene	<5	5	<5	5	490	5	<5	5	<5	
Phenanthrene	<5	5	<5	5	260	5	<5	5	<5	
Pyrene	<5	5	<5	5	78	5	<5	5	<5	
METALS - FILTERED										
Sample ID	MW-201		MW-202		MW-204		MW-301		MW-303	
Sample Depth (feet BGS)										
Date Collected	12/27/95		12/27/95		12/27/95		12/27/95		12/27/95	
Date Extracted	-		-		-		-		-	
Date Analyzed	1/3/96		1/3/96		1/3/96		1/3/96		1/3/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	7421		7421		7421		7421		7421	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	<3	3	<3	3	64	3	<3	3	<3	3

K0000 4575

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	B401		B402		B403		B404		B404	
Sample Depth (feet BGS)	17-22		28-33		16-21		17-22		28-33	
Date Collected	3/20/96		3/21/96		3/21/96		3/22/96		3/22/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	3/27/96		3/27/96		3/27/96		3/27/96		3/27/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8021A		8021A		8021A		8021A		8021A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	150	1	<1	1	<1	1	40	1	8	1
Toluene	3,800	1	<1	1	<1	1	22	1	3	1
Ethylbenzene	1,700	1	<1	1	<1	1	270	1	32	1
Total Xylenes	17,800	1	<1	1	2	1	1,310	1	148	1
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene										
Acenaphthylene										
Anthracene										
Benzo(a)anthracene										
Benzo(a)pyrene										
Benzo(b)fluoranthene										
Benzo(g,h,i)perylene										
Benzo(k)fluoranthene										
Chrysene										
Dibenzo(a,h)anthracene										

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K000045576

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene										
Fluorene										
Indeno(1,2,3- cd)pyrene										
Naphthalene										
2-Methylnaphtalene										
Phenanthrene										
Pyrene										
METALS - FILTERED										
Sample ID	B401		B402		B403		B404		B404	
Sample Depth (feet BGS)	17-22		28-33		16-21		17-22		28-33	
Date Collected	3/20/96		3/21/96		3/21/96		3/22/96		3/22/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	3/27/96		3/27/96		3/27/96		3/27/96		3/27/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	7421		7421		7421		7421		7421	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	9	3	11	3	4	3	<3	3	<	3

K0000045572

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	B405									
Sample Depth (feet BGS)										
Date Collected	3/22/96									
Date Extracted	-									
Date Analyzed	3/27/96									
Collection Method*	BL									
Analytical Method No.	8021A									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	4	1								
Toluene	510	1								
Ethylbenzene	320	1								
Total Xylenes	620	1								
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene										
Acenaphthylene										
Anthracene										
Benzo(a)anthracene										
Benzo(a)pyrene										
Benzo(b)fluoranthene										
Benzo(g,h,i)perylene										
Benzo(k)fluoranthene										
Chrysene										
Dibenzo(a,h)anthracene										

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K0000045578

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene										
Fluorene										
Indeno(1,2,3- cd)pyrene										
Naphthalene										
2-Methylnaphtalene										
Phenanthrene										
Pyrene										
METALS - FILTERED										
Sample ID	B405									
Sample Depth (feet BGS)										
Date Collected	3/22/96									
Date Extracted	-									
Date Analyzed	3/27/96									
Collection Method*	BL									
Analytical Method No.	7421									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	<3	3								

K000004579

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	B406									
Sample Depth (feet BGS)										
Date Collected	3/25/96									
Date Extracted	-									
Date Analyzed	4/2/96									
Collection Method*	BL									
Analytical Method No.	8021A									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	1,000									
Toluene	6,400									
Ethylbenzene	1,100									
Total Xylenes	12,800									
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene										
Acenaphthylene										
Anthracene										
Benzo(a)anthracene										
Benzo(a)pyrene										
Benzo(b)fluoranthene										
Benzo(g,h,i)perylene										
Benzo(k)fluoranthene										
Chrysene										
Dibenzo(a,h)anthracene										

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K000004580

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene										
Fluorene										
Indeno(1,2,3- cd)pyrene										
Naphthalene										
2-Methylnaphtalene										
Phenanthrene										
Pyrene										
METALS - FILTERED										
Sample ID	B406									
Sample Depth (feet BGS)										
Date Collected	3/25/96									
Date Extracted	-									
Date Analyzed	4/1/96									
Collection Method*	BL									
Analytical Method No.	7421									
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	<3	3								

K000004581

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	MW-202		MW-201		MW-303		RW-1		MW-404D	
Sample Depth (feet BGS)										
Date Collected	4/1/96		4/1/96		4/1/96		4/1/96		4/1/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	4/2/96		4/2/96		4/2/96		4/2/96		4/2/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8021A		8021A		8021A		8021A		8021A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	<1	1	<1	1	<1	1	4	1	<1	1
Toluene	<1	1	<1	1	<1	1	17	1	<1	1
Ethylbenzene	<1	1	<1	1	<1	1	82	1	<1	1
Total Xylenes	<1	1	<1	1	<1	1	730	1	<1	1
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene										
Acenaphthylene										
Anthracene										
Benzo(a)anthracene										
Benzo(a)pyrene										
Benzo(b)fluoranthene										
Benzo(g,h,i)perylene										
Benzo(k)fluoranthene										
Chrysene										
Dibenzo(a,h)anthracene										

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K00004582

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID										
Sample Depth (feet BGS)										
Date Collected										
Date Extracted										
Date Analyzed										
Collection Method*										
Analytical Method No.										
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene										
Fluorene										
Indeno(1,2,3- cd)pyrene										
Naphthalene										
2-Methylnaphtalene										
Phenanthrene										
Pyrene										
METALS - FILTERED										
Sample ID	MW-202		MW-201		MW-303		RW-1		MW-404D	
Sample Depth (feet BGS)										
Date Collected	4/1/96		4/1/96		4/1/96		4/1/96		4/1/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	4/3/96		4/3/96		4/3/96		4/3/96		4/3/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	7421		7421		7421		7421		7421	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	<3	3	<3	3	<3	3	4	3	<3	3

K00004583

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	MW-404S		MW-401		MW-301		MW-406			
Sample Depth (feet BGS)										
Date Collected	4/1/96		4/1/96		4/1/96		4/1/96			
Date Extracted	-		-		-		-			
Date Analyzed	4/2/96		4/2/96		4/2/96		4/2/96			
Collection Method*	BL		BL		BL		BL			
Analytical Method No.	8021A		8021A		8021A		8021A			
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	18	1	5	1	<1	1	24	1		
Toluene	14	1	61	1	<1	1	1,100	1		
Ethylbenzene	76	1	59	1	<1	1	660	1		
Total Xylenes	500	1	1,800	1	2	1	4,500	1		
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-404S		MW-401		MW-301		MW-406			
Sample Depth (feet BGS)										
Date Collected	4/1/96		4/1/96		4/1/96		4/1/96			
Date Extracted	-		-		-		-			
Date Analyzed	4/2/96		4/2/96		4/2/96		4/2/96			
Collection Method*	BL		BL		BL		BL			
Analytical Method No.	8021A		8021A		8021A		8021A			
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5	21	5	<5	5	19	5		
Acenaphthylene	<5	5	5	5	<5	5	5	5		
Anthracene	<5	5	<5	5	<5	5	<5	5		
Benzo(a)anthracene	<5	5	<5	5	<5	5	<5	5		
Benzo(a)pyrene	<5	5	<5	5	<5	5	<5	5		
Benzo(b)fluoranthene	<5	5	<5	5	<5	5	<5	5		
Benzo(g,h,i)perylene	<5	5	<5	5	<5	5	<5	5		
Benzo(k)fluoranthene	<5	5	<5	5	<5	5	<5	5		
Chrysene	<5	5	<5	5	<5	5	<5	5		
Dibenzo(a,h)anthracene	<5	5	<5	5	<5	5	<5	5		

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K00004584

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-404S		MW-401		MW-301		MW-406			
Sample Depth (feet BGS)										
Date Collected	4/1/96		4/1/96		4/1/96		4/1/96			
Date Extracted	-		-		-		-			
Date Analyzed	4/2/96		4/2/96		4/2/96		4/2/96			
Collection Method*	BL		BL		BL		BL			
Analytical Method No.	8021A		8021A		8021A		8021A			
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5	<5	5	<5	5	<5	5		
Fluorene	<5	5	9	5	<5	5	<5	5		
Indeno(1,2,3- cd)pyrene	<5	5	<5	5	<5	5	<5	5		
Naphthalene	13	5	160	5	<5	5	60	5		
2-Methylnaphtalene	6	5	15	5	<5	5	7	5		
Phenanthrene	<5	5	<5	5	<5	5	<5	5		
Pyrene	<5	5	<5	5	<5	5	<5	5		
METALS - FILTERED										
Sample ID	MW-404S		MW-401		MW-301		MW-406			
Sample Depth (feet BGS)										
Date Collected	4/1/96		4/3/96		4/3/96		4/1/96			
Date Extracted	-		-		-		-			
Date Analyzed	4/10/96		4/10/96		4/10/96		4/10/96			
Collection Method*	BL		BL		BL		BL			
Analytical Method No.	7421		7421		7421		7421			
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	20	3	<3	3	<3	3	23	3		

K0000458S

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	MW-201		MW-202		MW-301		MW-303		MW-401	
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		6/21/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	6/27/96		6/27/96		6/27/96		6/27/96		6/27/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8021A		8021A		8021A		8021A		8021A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	1	1	<1	1	<1	1	1	1	6	1
Toluene	2	1	<1	1	<1	1	5	1	1,300	1
Ethylbenzene	<1	1	<1	1	<1	1	3	1	630	1
Total Xylenes	1	3	<3	3	1	3	44	3	5,900	3
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-201		MW-202		MW-301		MW-303		MW-401	
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		6/21/96	
Date Extracted	6/27/96		6/27/96		6/27/96		6/27/96		6/27/96	
Date Analyzed	7/2/96		7/2/96		7/2/96		7/2/96		7/2/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8270A		8270A		8270A		8270A		8270A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5	<5	5	<5	5	<5	5	<5	5
Acenaphthylene	<5	5	<5	5	<5	5	<5	5	<5	5
Anthracene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(a)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(a)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(b)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(g,h,i)perylene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(k)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Chrysene	<5	5	<5	5	<5	5	<5	5	<5	5
Dibenzo(a,h)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K000004586

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-201		MW-202		MW-301		MW-303		MW-401	
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		6/21/96	
Date Extracted	6/27/96		6/27/96		6/27/96		6/27/96		6/27/96	
Date Analyzed	7/2/96		7/2/96		7/2/96		7/2/96		7/2/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8270A		8270A		8270A		8270A		8270A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Fluorene	<5	5	<5	5	<5	5	<5	5	<5	5
Indeno(1,2,3- cd)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
Naphthalene	<5	5	<5	5	<5	5	<5	5	52	5
2-Methylnaphtalene	<5	5	<5	5	<5	5	<5	5	120	5
Phenanthrene	<5	5	<5	5	<5	5	<5	5	<5	5
Pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
METALS - FILTERED										
Sample ID	MW-201		MW-202		MW-301		MW-303		MW-401	
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		6/21/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	6/26/96		6/26/96		6/26/96		6/26/96		6/26/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	7421		7421		7421		7421		7421	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	<3	3	<3	3	<3	3	3	3	19	3

K0000458?

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

ATTACHMENT NO. 18

VOLATILES										
Sample ID	MW-404S		MW404D		MW-406		RW-1		GP-3	
Sample Depth (feet BGS)									17-19	
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		7/25/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	6/27/96		6/27/96		6/27/96		6/27/96		7/31/96	
Collection Method*	BL		BL		BL		BL		GP	
Analytical Method No.	8021A		8021A		8021A		8021A		8021A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	3	1	<1	1	10	1	2	1	<1	1
Toluene	10	1	<1	1	52	1	2	1	<1	1
Ethylbenzene	32	1	2	1	710	1	20	1	<1	1
Total Xylenes	261	3	<1	3	1,750	3	45	3	<1	3
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-404S		MW404D		MW-406		RW-1		GP-3	
Sample Depth (feet BGS)									17-19	
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		7/25/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	7/2/96		7/2/96		7/2/96		7/2/96		8/1/96	
Collection Method*	BL		BL		BL		BL		GP	
Analytical Method No.	8270A		8270A		8270A		8270A		8270A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5	<5	5	<5	5	<5	5	<5	5
Acenaphthylene	<5	5	<5	5	<5	5	<5	5	<5	5
Anthracene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(a)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(a)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(b)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(g,h,i)perylene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(k)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Chrysene	<5	5	<5	5	<5	5	<5	5	<5	5
Dibenzo(a,h)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5

K000004588

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-404S		MW404D		MW-406		RW-1		GP-3	
Sample Depth (feet BGS)									17-19	
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		7/25/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	7/2/96		7/2/96		7/2/96		7/2/96		8/1/96	
Collection Method*	BL		BL		BL		BL		GP	
Analytical Method No.	8270A		8270A		8270A		8270A		8270A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Fluorene	<5	5	<5	5	<5	5	<5	5	<5	5
Indeno(1,2,3- cd)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
Naphthalene	5	5	<5	5	7	5	<5	5	52	5
2-Methylnaphtalene	11	5	<5	5	32	5	5	5	120	5
Phenanthrene	<5	5	<5	5	<5	5	<5	5	<5	5
Pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
METALS - FILTERED										
Sample ID	MW-404S		MW404D		MW-406		RW-1		GP-3	
Sample Depth (feet BGS)									17-19	
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		7/25/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	6/26/96		6/26/96		6/26/96		6/26/96		7/30/96	
Collection Method*	BL		BL		BL		BL		GP	
Analytical Method No.	7421		7421		7421		7421		7421	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	10	3	<3	3	<3	3	<3	3	<3	3

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K00004589

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	MW-201		MW-202		MW-301		MW-303		MW-401	
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		6/21/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	6/27/96		6/27/96		6/27/96		6/27/96		6/27/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8021A		8021A		8021A		8021A		8021A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	1	1	<1	1	<1	1	1	1	6	1
Toluene	2	1	<1	1	<1	1	5	1	1,300	1
Ethylbenzene	<1	1	<1	1	<1	1	3	1	630	1
Total Xylenes	1	1	<1	1	1	1	44	1	5,900	1
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-201		MW-202		MW-301		MW-303		MW-401	
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		6/21/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	7/2/96		7/2/96		7/2/96		7/2/96		7/2/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8270A		8270A		8270A		8270A		8270A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5	<5	5	<5	5	<5	5	<5	5
Acenaphthylene	<5	5	<5	5	<5	5	<5	5	<5	5
Anthracene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(a)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(a)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(b)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(g,h,i)perylene	<5	5	<5	5	<5	5	<5	5	<5	5
Benzo(k)fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Chrysene	<5	5	<5	5	<5	5	<5	5	<5	5
Dibenzo(a,h)anthracene	<5	5	<5	5	<5	5	<5	5	<5	5

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K000004590

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-201		MW-202		MW-301		MW-303		MW-401	
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		6/21/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	7/2/96		7/2/96		7/2/96		7/2/96		7/2/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	8270A		8270A		8270A		8270A		8270A	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5	<5	5	<5	5	<5	5	<5	5
Fluorene	<5	5	<5	5	<5	5	<5	5	<5	5
Indeno(1,2,3- cd)pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
Naphthalene	<5	5	<5	5	<5	5	<5	5	120	5
2-Methylnaphtalene	<5	5	<5	5	<5	5	<5	5	52	5
Phenanthrene	<5	5	<5	5	<5	5	<5	5	<5	5
Pyrene	<5	5	<5	5	<5	5	<5	5	<5	5
METALS - FILTERED										
Sample ID	MW-201		MW-202		MW-301		MW-303		MW-401	
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96		6/21/96	
Date Extracted	-		-		-		-		-	
Date Analyzed	6/26/96		6/26/96		6/26/96		6/26/96		6/26/96	
Collection Method*	BL		BL		BL		BL		BL	
Analytical Method No.	7421		7421		7421		7421		7421	
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	<3	3	<3	3	<3	3	3	3	19	3

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K000004591

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION
FINAL ASSESSMENT REPORT (Continued)

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

VOLATILES										
Sample ID	MW-404S		MW-404D		MW-406		RW-1			
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96			
Date Extracted	-		-		-		-			
Date Analyzed	6/27/96		6/27/96		6/27/96		6/27/96			
Collection Method*	BL		BL		BL		BL			
Analytical Method No.	8021A		8021A		8021A		8021A			
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Benzene	3	1	<1	1	10	1	2	1		
Toluene	10	1	<1	1	52	1	2	1		
Ethylbenzene	32	1	<1	1	710	2	20	1		
Total Xylenes	261	1	2	1	1,750	1	45	1		
MTBE										
POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-404S		MW-404D		MW-406		RW-1			
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96			
Date Extracted	-		-		-		-			
Date Analyzed	7/2/96		7/2/96		7/2/96		7/2/96			
Collection Method*	BL		BL		BL		BL			
Analytical Method No.	8270A		8270A		8270A		8270A			
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Acenaphthene	<5	5	<5	5	<5	5	<5	5		
Acenaphthylene	<5	5	<5	5	<5	5	<5	5		
Anthracene	<5	5	<5	5	<5	5	<5	5		
Benzo(a)anthracene	<5	5	<5	5	<5	5	<5	5		
Benzo(a)pyrene	<5	5	<5	5	<5	5	<5	5		
Benzo(b)fluoranthene	<5	5	<5	5	<5	5	<5	5		
Benzo(g,h,i)perylene	<5	5	<5	5	<5	5	<5	5		
Benzo(k)fluoranthene	<5	5	<5	5	<5	5	<5	5		
Chrysene	<5	5	<5	5	<5	5	<5	5		
Dibenzo(a,h)anthracene	<5	5	<5	5	<5	5	<5	5		

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

K000004592

ATTACHMENT NO. 18
LABORATORY RESULTS GROUNDWATER
FACILITY NAME CPCO - KALAMAZOO SERVICE CENTER
FACILITY NUMBER 0-017371

POLYNUCLEAR AROMATICS (PNAs)										
Sample ID	MW-404S		MW-404D		MW-406		RW-1			
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96			
Date Extracted	-		-		-		-			
Date Analyzed	7/2/96		7/2/96		7/2/96		7/2/96			
Collection Method*	BL		BL		BL		BL			
Analytical Method No.	8270A		8270A		8270A		8270A			
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Fluoranthene	<5	5	<5	5	<5	5	<5	5		
Fluorene	<5	5	<5	5	<5	5	<5	5		
Indeno(1,2,3- cd)pyrene	<5	5	<5	5	<5	5	<5	5		
Naphthalene	11	5	<5	32	5	5	<5	5		
2-Methylnaphtalene	5	5	<5	7	<5	5	<5	5		
Phenanthrene	<5	5	<5	5	<5	5	<5	5		
Pyrene	<5	5	<5	5	<5	5	<5	5		
METALS - FILTERED										
Sample ID	MW-404S		MW-404D		MW-406		RW-1			
Sample Depth (feet BGS)										
Date Collected	6/21/96		6/21/96		6/21/96		6/21/96			
Date Extracted	-		-		-		-			
Date Analyzed	6/26/96		6/26/96		6/26/96		6/26/96			
Collection Method*	BL		BL		BL		BL			
Analytical Method No.	7421		7421		7421		7421			
CONSTITUENT (ug/l)	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL	Conc	MDL
Total Lead	10	3	<3	3	<3	3	<3	3		

K00004593

BGS = Below Ground Surface
* If Applicable
** Footnote and define all Collection Method Codes used in this table:_____
MDL = Method Detection Limit

ATTACHMENT NO. 27

IMPLEMENTATION SCHEDULE FOR THE CORRECTIVE ACTION

ATTACHMENT NO. 27

IMPLEMENTATION SCHEDULE FOR THE CORRECTIVE ACTION KALAMAZOO SERVICE CENTER CONSUMERS POWER COMPANY

SME PROJECT NO. PE21914

October 7, 1996	Conduct first quarter groundwater sampling and submit groundwater samples to analytical laboratory.
October 28, 1996	Receive analytical results and prepare First Quarter Groundwater Monitoring Report.
November 18, 1996	Submit First Quarter Report to the MDEQ, Plainwell District Office.
January 6, 1997	Conduct second quarter groundwater sampling and submit groundwater samples to analytical laboratory.
January 20, 1997	Receive analytical results and prepare Second Quarter Groundwater Monitoring Report.
February 17, 1997	Submit Second Quarter Report to the MDEQ, Plainwell District Office.
April 7, 1997	Conduct third quarter groundwater sampling and submit groundwater samples to analytical laboratory.
April 21, 1997	Receive analytical results and prepare Third Quarter Groundwater Monitoring Report.
May 19, 1997	Submit Third Quarter Report to the MDEQ, Plainwell District Office.
July 7, 1997	Conduct fourth quarter groundwater sampling and submit groundwater samples to analytical laboratory.
July 21, 1997	Receive analytical results and prepare Fourth Quarter Groundwater Monitoring Report.
August 18, 1997	Submit Fourth Quarter Report to the MDEQ, Plainwell District Office.

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ATTACHMENT NO. 29

RESPONSE TO QUESTION 2.0 - D.

ATTACHMENT NO. 29

RESPONSE TO QUESTION 2.0 - D.
KALAMAZOO SERVICE CENTER
CONSUMERS POWER COMPANY
SME PROJECT NO. PE21914

No recommendations (i.e. workplans) for additional investigation activities were presented in the Initial Assessment Report (60-Day). However, additional field investigation activities were conducted in February, 1995; May, 1995; December, 1995; March/April, 1996 and June/July, 1996. The objectives and scope of services associated with these field investigation activities are presented below.

Phase I Hydrogeological Study

The February, 1995 field investigation activities were conducted for the Phase I Hydrogeological Study (150-Day). The objectives of the investigation activities were to:

1) Evaluate the lateral extent of residual hydrocarbon impact to soil observed in a boring, B104 at 13 to 15 feet BG, drilled during supplemental investigation activities conducted in December, 1994;

2) Determine if soil beneath the UST hold-down pad is impacted with residual hydrocarbon compounds;

3) Determine the depth to groundwater, as well as the direction of groundwater flow within the vicinity of the former UST system; and,

4) Determine if groundwater is impacted with residual hydrocarbon compounds.

The scope of services for the February, 1995 field investigation activities consisted of the following:

1) Drilled 4 soil borings labeled B201 through B204 on February 13 through February 15, 1995. Borings B201, B202 and B204 were completed as monitoring wells MW201, MW202 and MW204.

2) Field screened soil samples with an OVA for the presence of volatile organic constituents (VOCs).

3) Submitted select soil samples obtained from B201 through B204 for laboratory analysis of BTEX and PNA compounds.

4) Submitted groundwater samples obtained from MW201 and MW202 for laboratory analysis of BTEX and PNA compounds, as well as dissolved lead. A sample of free phase product was obtained from MW204 for laboratory analysis of hydrocarbon distribution and total lead.

5) Surveyed the elevation of the top of each well casing and the ground surface to the nearest 0.01 foot. Measured the depth to groundwater in each well for evaluation of the groundwater flow direction.

K00004597

6) Recovered free phase product from MW204 approximately every other day, from February 17, 1995 through March 10, 1995.

The results, conclusions and recommendations for the February, 1995 field investigation activities are presented in the "150-Day Phase I Hydrogeologic Investigation" report, dated March 17, 1995.

Supplemental Hydrogeologic Investigation

The May, 1995 field investigation activities were conducted to further evaluate the lateral extent of free-phase product at the site and obtain additional information regarding potential source areas. The scope of services for the May, 1995 field investigation activities consisted of the following:

1) Drilled 4 soil borings, labeled B301 through B304, on May 15 through May 17, 1995. Borings B301 and B303 were completed as monitoring wells MW301 and MW303, respectively. A temporary monitoring well was installed and subsequently removed from B304. B302 was not completed as a monitoring well because groundwater was not encountered during drilling. B304 was not completed as a monitoring well because its proximity to MW204 would not have provided any additional data.

2) Field screened soil samples with a 10.2 eV PID for the presence of VOCs.

3) Submitted select soil samples obtained from B304 for laboratory analysis of BTEX and PNA compounds. Soil samples obtained from B301 through B303 were not submitted for laboratory analysis because evidence of residual hydrocarbon impact, petroleum odors and/or staining, were not noted during drilling activities.

4) Submitted groundwater samples obtained from MW201, MW202, MW204, MW301 and MW303 on May 22, 1995 for laboratory analysis of BTEX and PNA compounds, as well as dissolved lead.

5) Surveyed the elevation of the top of each well casing and the ground surface to the nearest 0.01 foot. Measured the depth to groundwater in each well for evaluation of the groundwater flow direction.

The results, conclusions and recommendations for the May, 1995 field investigation activities are presented in the "Supplemental Hydrogeologic Investigation Report," dated July 25, 1995.

Quarterly Groundwater Sampling

Quarterly groundwater sampling was conducted in December, 1995; March/April, 1996 and June/July, 1996. The objective of the sampling events was to monitor residual hydrocarbon and free-phase product impact to water bearing stratum(s) at the site. Generally, the scope of services for quarterly groundwater sampling events consisted of the following:

1) Obtain static groundwater elevations and collect groundwater samples from existing site monitoring wells.

2) Measure the thickness of and manually purge free-phase product from MW204/RW1.

3) Submit groundwater samples from site monitoring wells for laboratory analysis of BTEX, PNAs and dissolved lead.

Supplementary field investigation activities conducted in conjunction with the March/April, 1996 quarterly groundwater sampling event consisted of the following:

1) Drilled 6 soil borings, labeled B401 through B406, on March 20, 21, 22 and 25, 1996.

2) Overdrilled and removed MW204 to install recovery well RW1 on March 25, 1996.

3) Field screened soil samples with a 10.2 eV PID for the presence of VOCs.

4) Submitted soil samples obtained from B401 and B405 for laboratory analysis of BTEX.

5) Set temporary monitoring wells in B401 through B406.

6) Submitted groundwater samples obtained from temporary monitoring wells at B401 through B406 for laboratory analysis of BTEX and dissolved lead.

7) Installed permanent monitoring wells MW401, MW404S, MW404D and MW406.

8) Conducted a well performance test at RW1 on March 29, 1996.

The objectives of these supplemental investigation activities were to further evaluate the extent and source(s) of free-phase product observed at MW204. The results, conclusions and recommendations for supplemental drilling conducted in March, 1996 and the second quarter groundwater monitoring activities conducted in April, 1996 are presented in the "Second Quarter Groundwater Monitoring Report," dated May 2, 1996.

Supplementary field investigation activities conducted in conjunction with the June/July, 1996 quarterly groundwater sampling event consisted of the following:

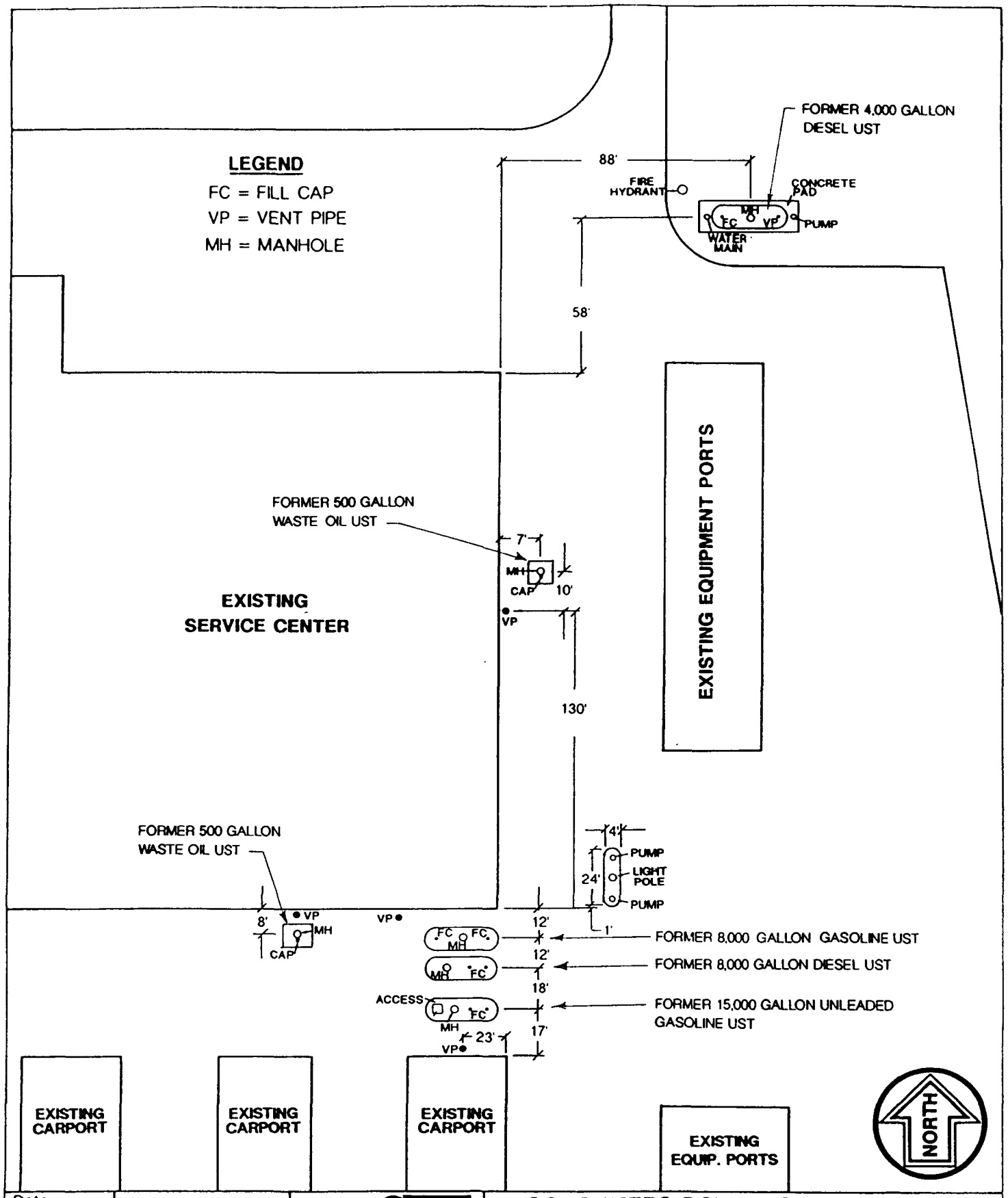
1) Advanced 3 GeoProbe cores, GP1, GP2 and GP3 on July 25, 1996 to a depth of approximately 21 feet BG at GP1 and GP3 and approximately 15 feet BG at GP2.

2) Obtained groundwater and/or soil samples from each core and submitted the samples for laboratory analysis of BTEX.

The objective of these supplemental investigation activities was to evaluate the lateral extent of residual hydrocarbon impact to the upper groundwater unit to the east of MW406. The results of the third quarter groundwater monitoring activities conducted in June, 1996 and the supplementary GeoProbe coring activities conducted in July, 1996 are presented with this report.

ATTACHMENT NO. 30

LOCATION OF FORMER UST SYSTEMS AT THE SITE



Date 9-17-96	BAY CITY KALAMAZOO LANSING PLYMOUTH TOLEDO	soil and materials engineers, inc	**CONSUMERS POWER COMPANY** **UNDERGROUND STORAGE TANK** MANAGEMENT PROGRAM **KALAMAZOO SERVICE CENTER** **KALAMAZOO, MICHIGAN**
Drawn By ARR/DK			
Scale ±1"=5'			
Job PE 21914			

DWG. NO. 21914-34

Figure No. 30-A

K00004601

ATTACHMENT NO. 31

RESPONSE TO QUESTION 5.0 - B.

ATTACHMENT NO. 31

RESPONSE TO QUESTION 5.0 - B
KALAMAZOO SERVICE CENTER
CONSUMERS POWER COMPANY
SME PROJECT NO. PE21914

The preferred alternative will be quarterly groundwater monitoring. Groundwater samples will be obtained from each site monitoring well, as well as the recovery well, on a quarterly basis per the Implementation Schedule presented under Attachment No. 27. The primary purpose of the quarterly groundwater monitoring is to demonstrate a reduction in residual hydrocarbon impact to groundwater by natural bioattenuation. The rationale for selecting the preferred alternative is discussed below.

1) It has been determined that the lateral and vertical extent of residual hydrocarbon impact to the upper groundwater unit is limited and is not migrating off-site. This information in concert with the evaluation of potential migration pathways and receptors (See Section 4.1) indicates that the impacted groundwater does not represent a threat to human health and the environment. Further, the preferred alternative meets the requirements of the Risk-Based Corrective Action process by completing the evaluation of potential migration pathways and receptors which in turn was integrated into the decision process regarding an appropriate corrective action.

2) The preferred alternative may constitute a permanent solution if natural bioattenuation of the residual hydrocarbon impact to groundwater does show a decrease in concentrations over the currently planned one year period. However, if necessary, CPCo will pursue a restricted closure for the site if bioattenuation of residual hydrocarbon does not appear to be a viable consideration after a year of groundwater monitoring.

3) The cost of quarterly groundwater monitoring is significantly less than remediation by pump and treat.

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ATTACHMENT NO. 32

CHRONOLOGICAL SUMMARY OF REPORT SUBMITTALS

K00004604

ATTACHMENT NO. 32

CHRONOLOGICAL SUMMARY OF REPORT SUBMITTALS TO THE MDEQ-USTD KALAMAZOO SERVICE CENTER CONSUMERS POWER COMPANY

SME PROJECT NO. PE21914

November 7, 1994	Initial Abatement Report (20-Day)
December 15, 1994	Initial Assessment Report (60-Day), **FIRST SUBMITTAL**
January 12, 1995	Initial Assessment Report (60-Day), **REVISED SUBMITTAL**
March 8, 1995	20-Day Free Product Report
March 17, 1995	Phase I Hydrogeological Study (150-Day)
July 26, 1995	Supplemental Hydrogeologic Investigation Report
February 9, 1996	First Quarter Groundwater Monitoring Report
March 22, 1996	Free Product Recovery Status Report
April 19, 1996	Free Product Recovery Status Report
May 2, 1996	Second Quarter Groundwater Monitoring Report

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ATTACHMENT NO. 33

COPY OF CERTIFICATE OF INSURANCE

K00004606

received 8-30-96

ASSOCIATED ELECTRIC & GAS INSURANCE SERVICES LIMITED

Endorsement No. 8 Effective Date of Endorsement June 30, 1996

Attached to and forming part of POLICY No. X0136A1A96

NAMED INSURED CMS Energy Corporation

It is understood and agreed that this POLICY is hereby amended as indicated. All other terms and conditions of this POLICY remain unchanged.

UNDERGROUND STORAGE TANK FINANCIAL RESPONSIBILITY ENDORSEMENT

DECLARATIONS

Item UST1: A. Name of each covered location:
(See attachment UST1)

B. Address of each covered location:
(See attachment UST1)

Item UST2: Policy Number: X0136A1A96

Item UST3: Period of coverage: June 30, 1996 to June 30, 1997

Item UST4: A. Name of Insurer: Associated Electric & Gas Insurance Services Limited

B. Address of Insurer: Argus Insurance Building, 12 Wesley Street, P.O. Box HM 1064, Hamilton, BERMUDA HM EX

Item UST5: A. Name of Insured: Consumers Power Company and Michigan Gas Storage Company

B. Address of Insured: 212 West Michigan Avenue
Jackson, Michigan 49201

INSURING AGREEMENT

1. This Endorsement certifies that the POLICY to which the Endorsement is attached provides liability insurance covering the underground storage tank(s) listed in attachment UST1 to this Endorsement for taking corrective action and/or compensating third parties for BODILY INJURY and PROPERTY DAMAGE caused by accidental release; in accordance with and subject to the limits of liability, exclusions, conditions, and other terms of the POLICY; arising from operating the underground storage tanks identified in attachment UST1.

   The limits of liability of the Insurer's liability are:

   $ 1,000,000. each OCCURRENCE; and

   $ 2,000,000. annual aggregate exclusive of legal defense costs, which are subject to a separate limit under the POLICY.

K00004607

8224 (1/92)

This coverage is provided under POLICY No. X0136A1A96
The effective date of said POLICY is June 30, 1996

2. The insurance afforded with respect to such OCCURRENCES is subject to all of the terms and conditions of the POLICY; provided, however, that any provisions inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

   a. Bankruptcy or insolvency of the INSURED shall not relieve the Insurer of its obligations under the POLICY to which this Endorsement is attached.

   b. The Insurer is liable for the payment of amounts within any deductible applicable to the POLICY to the provider of corrective action or a damaged third-party, with a right of reimbursement by the INSURED for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated under another mechanism or combination of mechanisms as specified in 40 CFR 280.95 - 280.102.

   c. Whenever requested by a Director of an implementing agency, the Insurer agrees to furnish to the Director a signed duplicate original of the POLICY and all endorsements.

   d. Cancellation or any other termination of the insurance by the Insurer except for nonpayment of premium or misrepresentation by the INSURED will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the INSURED. Cancellation for nonpayment of premium or misrepresentation by the INSURED will be effective only upon written notice and only after expiration of a minimum of 10 days after a copy of such written notice is received by the INSURED.

   e. The insurance covers CLAIMS otherwise covered by the POLICY that are reported to the Insurer within six months of the effective date of cancellation or non-renewal of the POLICY except where the new or renewed POLICY has the same retroactive date or a retroactive date earlier than that of the prior POLICY, and which arise out of any covered OCCURRENCE that commenced after the POLICY retroactive date, if applicable, and prior to such POLICY renewal or termination date. CLAIMS reported during such extended reporting period are subject to the terms, conditions, limits, including Limits of Liability, and exclusions of the POLICY.

I hereby certify that the wording of this instrument is identical to the wording in 40 CFR 280.97 (b) (1) and that the Insurer is eligible to provide insurance as an excess or surplus lines insurer in one or more States.

Signature

Melford H. Butts, CPCU, ARM-Vice President - Underwriting
Name - Title

AEGIS Insurance Services, Inc.,
Authorized Representative of:
Associated Electric & Gas Insurance Services Limited
10 Exchange Place
Jersey City, New Jersey 07302

K00004608

8224 (1/92)

AEG

ASSOCIATED ELECTRIC & GAS INSURANCE SERVICES LIMITED

Attachment UST1 to Endorsement No. 8 Effective Date of Endorsement June 30, 1996

Attached to and forming part of POLICY No. X0136A1A96

NAMED INSURED CMS Energy Corporation

Name and address of each location covered under Endorsement No. 8

Name of Covered Location	Address	Number of Tanks
Flint Service Center	3201 East Court Street P.O. Box 408 Flint, Michigan 48501	5
Midland Service Center	1100 Washington Street Midland, Michigan 48640	2
Bay City Service Center	4141 East Wilder Road Bay City, Michigan 48706	2
Pontiac Service Center	1030 Featherstone Road Pontiac, Michigan 48058 should be 8	2
Grand Rapids Service Center	4000 Clay Avenue, SW Grand Rapids, Michigan 49508	2
Manistee Service Center	25 Arthur Street Manistee, Michigan 49660	2
Battle Creek Service Center	311 East Michigan Avenue Battle Creek, Michigan 49017	6
Kalamazoo Service Center	2500 East Cork Street Kalamazoo, Michigan 49001	2
Allegan Service Center	670 Grand Street Allegan, Michigan 49010	2

K00004609

8225 (1/92)

ASSOCIATED ELECTRIC & GAS INSURANCE SERVICES LIMITED

Attachment UST1 to Endorsement No. 8 Effective Date of Endorsement June 30, 1996

Attached to and forming part of POLICY No. X0136A1A96

NAMED INSURED CMS Energy Corporation

Name and address of each location covered under Endorsement No. 8

Name of Covered Location	Address	Number of Tanks
Lansing Service Center	530 West Willow Street P.O. Box 30162 Lansing, Michigan 48909	4
Jackson Service Center	1955 West Parnall Road Jackson, Michigan 49201	2
Adrian Service Center	2613 East Maumee Adrian, Michigan 49221	1
J H Campbell Plant 3	17000 Croswell West Olive, Michigan 49460	2
B C Cobb Plant	151 North Causeway Muskegon, Michigan 49440	~~4~~ 3
J C Weadock Plant	2555 North Weadock Highway Essexville, Michigan 48732	~~5~~ 4
J C Whiting Plant	4525 Erie Road Erie, Michigan 48157	1
Ludington Pumped Storage	RR#1, South Lakeshore Drive Ludington, Michigan 49431	2
Marysville Gas Plant	2510 Busha Highway Marysville, Michigan 48040	1
Pipeline Headquarters Williamston	2800 North Stockbridge Route 3, Box 32 Williamston, Michigan 48895	2

K00004610

8225 (1/92)

ASSOCIATED ELECTRIC & GAS INSURANCE SERVICES LIMITED

Attachment UST1 to Endorsement No. 8 Effective Date of Endorsement June 30, 1996

Attached to and forming part of POLICY No. X0136A1A96

NAMED INSURED CMS Energy Corporation

Name and address of each location covered under Endorsement No. 8

Name of Covered Location	Address	Number of Tanks
~~Overisel Comrpessor Station~~	~~4131 138th Avenue Hamilton, Michigan 49419~~	~~3~~
DE Karn Plant Units 3 & 4	2680 North Weadock Highway Essexville, Michigan 48732	1
Northville Compressor Station	9440 Napier Road Northville, Michigan 48167	7
North Kent Service Center	1235 Post Drive Belmont, MI 48306	1
Freedom Compressor Station	12201 Pleasant Lake Road Manchester, Michigan 48158	12
St. Clair Compressor Station	10021 Marine City Highway Anchorville, Michigan 48004	4
Hangar, Aviation Dept.	3568 West Wildwood Jackson, Michigan 49202	1
General Office -- Garage	Pearl Street Jackson, Michigan 49201	1
Cheboygan Service Center	305 South Street Cheboygan, Michigan 49721	2
Rose City Service Center	411 S. Bennett St. P.O. Box 88 Rose City, Michigan 48654	1

K00004611

8225 (1/92)

AEG

ASSOCIATED ELECTRIC & GAS INSURANCE SERVICES LIMITED

Attachment UST1 to Endorsement No. 8 Effective Date of Endorsement June 30, 1996

Attached to and forming part of POLICY No. X0136A1A96

NAMED INSURED CMS Energy Corporation

Name and address of each location covered under Endorsement No. 8

Name of Covered Location	Address	Number of Tanks
Royal Oak Service Center	4600 Coolidge Highway P.O. Box 369 Royal Oak, Michigan 48068	4
Saginaw Service Center	2400 Weiss St. Saginaw, Michigan 48602	4
Tawas Service Center	1931 East Huron Road East Tawas, Michigan 48730	4
~~Old Orchard Park Store~~	~~883 E. River Road~~ ~~Osceola, MI 48750~~	~~1~~
~~Old Orchard Park Maintenance~~	~~881 E. River Road~~ ~~Osceola, MI 48750~~	~~1~~

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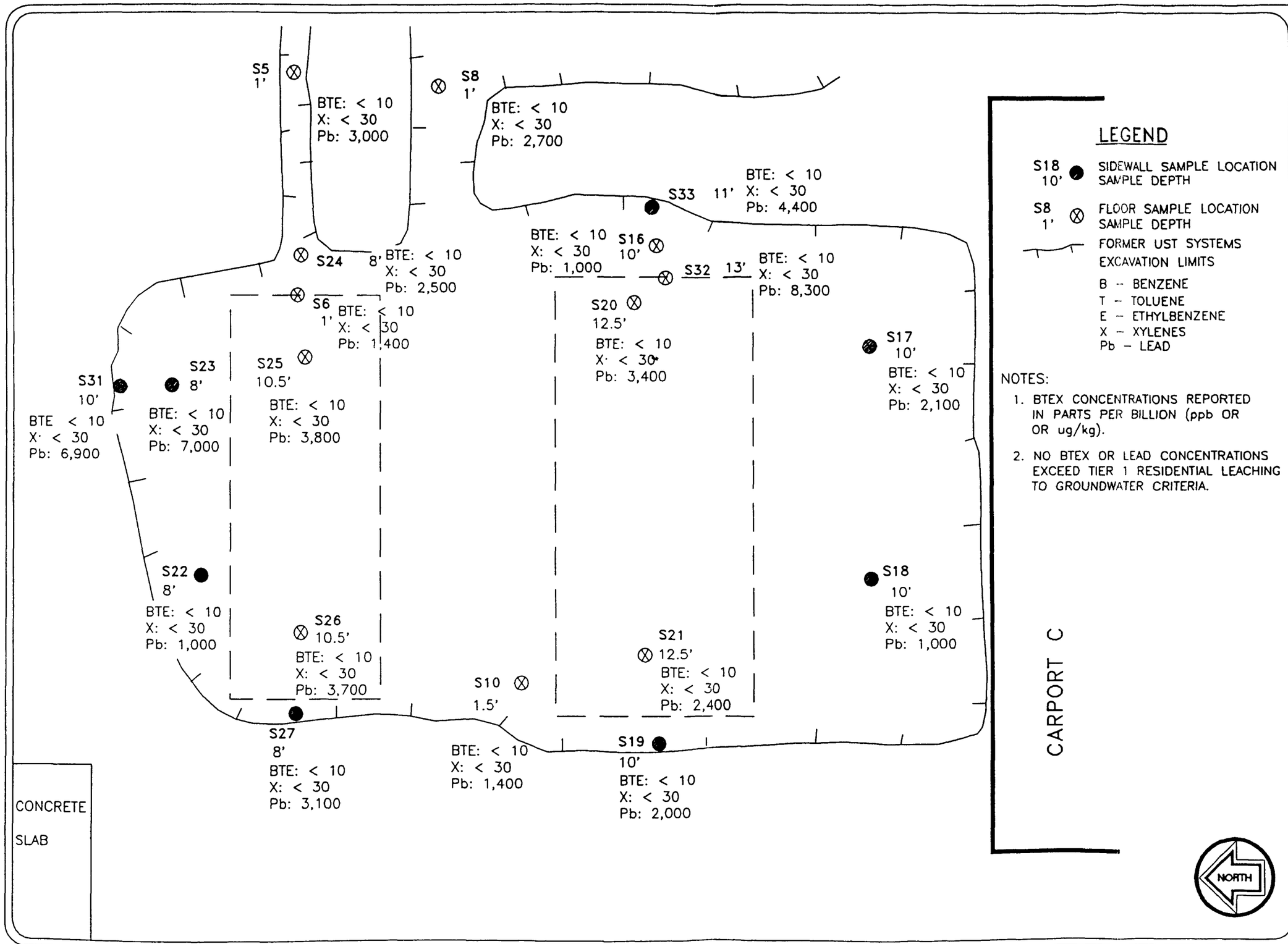
8225 (1/92)



LEGEND

S18 10' ● SIDEWALL SAMPLE LOCATION SAMPLE DEPTH

S8 1' ⊗ FLOOR SAMPLE LOCATION SAMPLE DEPTH

FORMER UST SYSTEMS EXCAVATION LIMITS

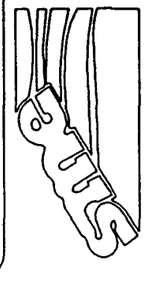
B – BENZENE
T – TOLUENE
E – ETHYLBENZENE
X – XYLENES
Pb – LEAD

NOTES:

1. BTEX CONCENTRATIONS REPORTED IN PARTS PER BILLION (ppb OR OR ug/kg).
2. NO BTEX OR LEAD CONCENTRATIONS EXCEED TIER 1 RESIDENTIAL LEACHING TO GROUNDWATER CRITERIA.

SOIL ANALYTICAL RESULTS DIAGRAM
FORMER UST EXCAVATION – BTEX
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN

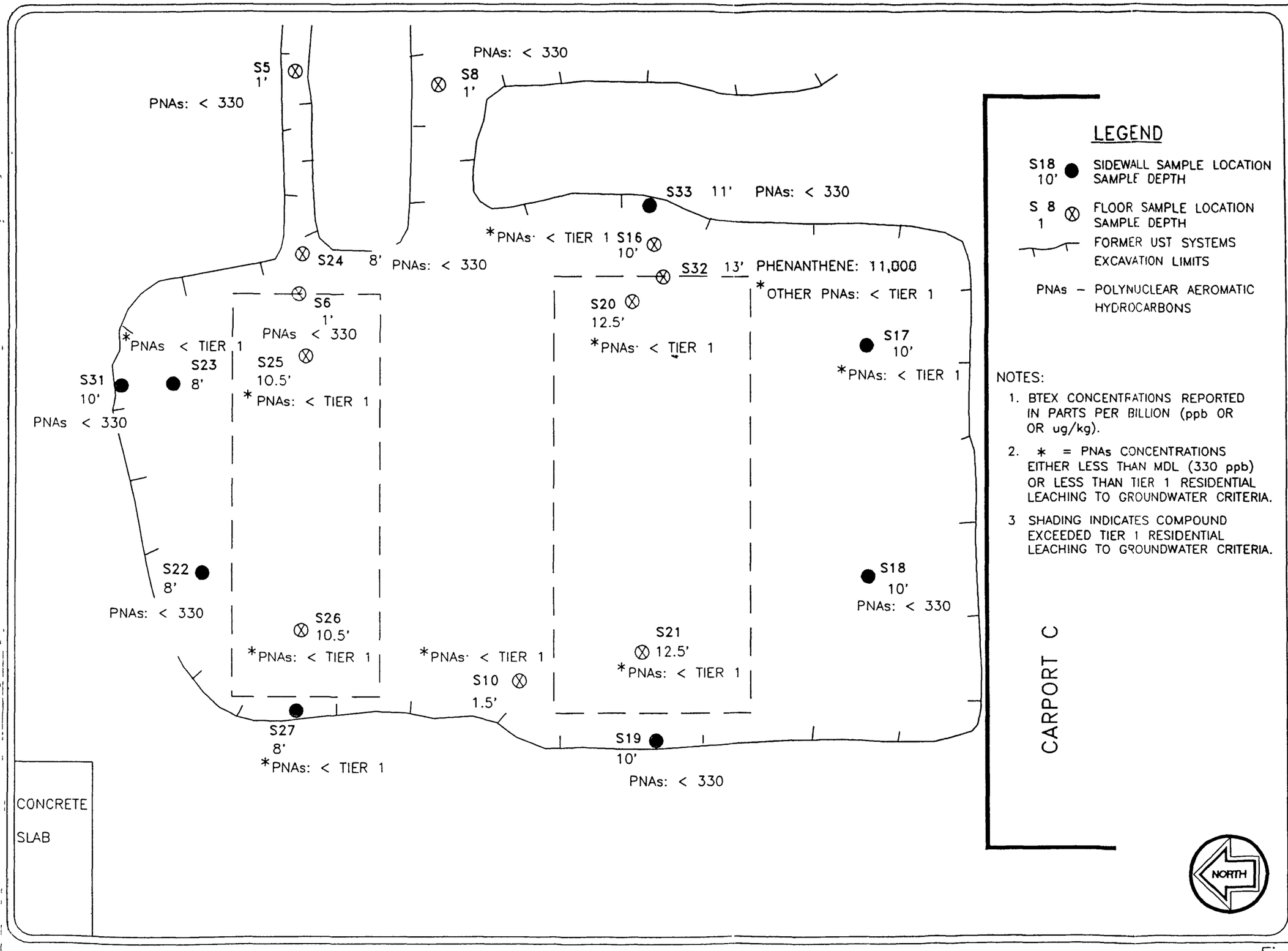
DATE: 9-17-96
SCALE: 1" = 5'
DRAFTER: ARR
JOB: PE 21914



FILE NAME H.21914-31

Figure No. 7-A

K00004613



LEGEND

S18 10' ● SIDEWALL SAMPLE LOCATION SAMPLE DEPTH

S 8 1 ⊗ FLOOR SAMPLE LOCATION SAMPLE DEPTH

FORMER UST SYSTEMS EXCAVATION LIMITS

PNAs – POLYNUCLEAR AEROMATIC HYDROCARBONS

NOTES:

1. BTEX CONCENTRATIONS REPORTED IN PARTS PER BILLION (ppb OR OR ug/kg).
2. * = PNAs CONCENTRATIONS EITHER LESS THAN MDL (330 ppb) OR LESS THAN TIER 1 RESIDENTIAL LEACHING TO GROUNDWATER CRITERIA.
3. SHADING INDICATES COMPOUND EXCEEDED TIER 1 RESIDENTIAL LEACHING TO GROUNDWATER CRITERIA.

SOIL ANALYTICAL RESULTS DIAGRAM
FORMER UST EXCAVATION – PNAs
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN

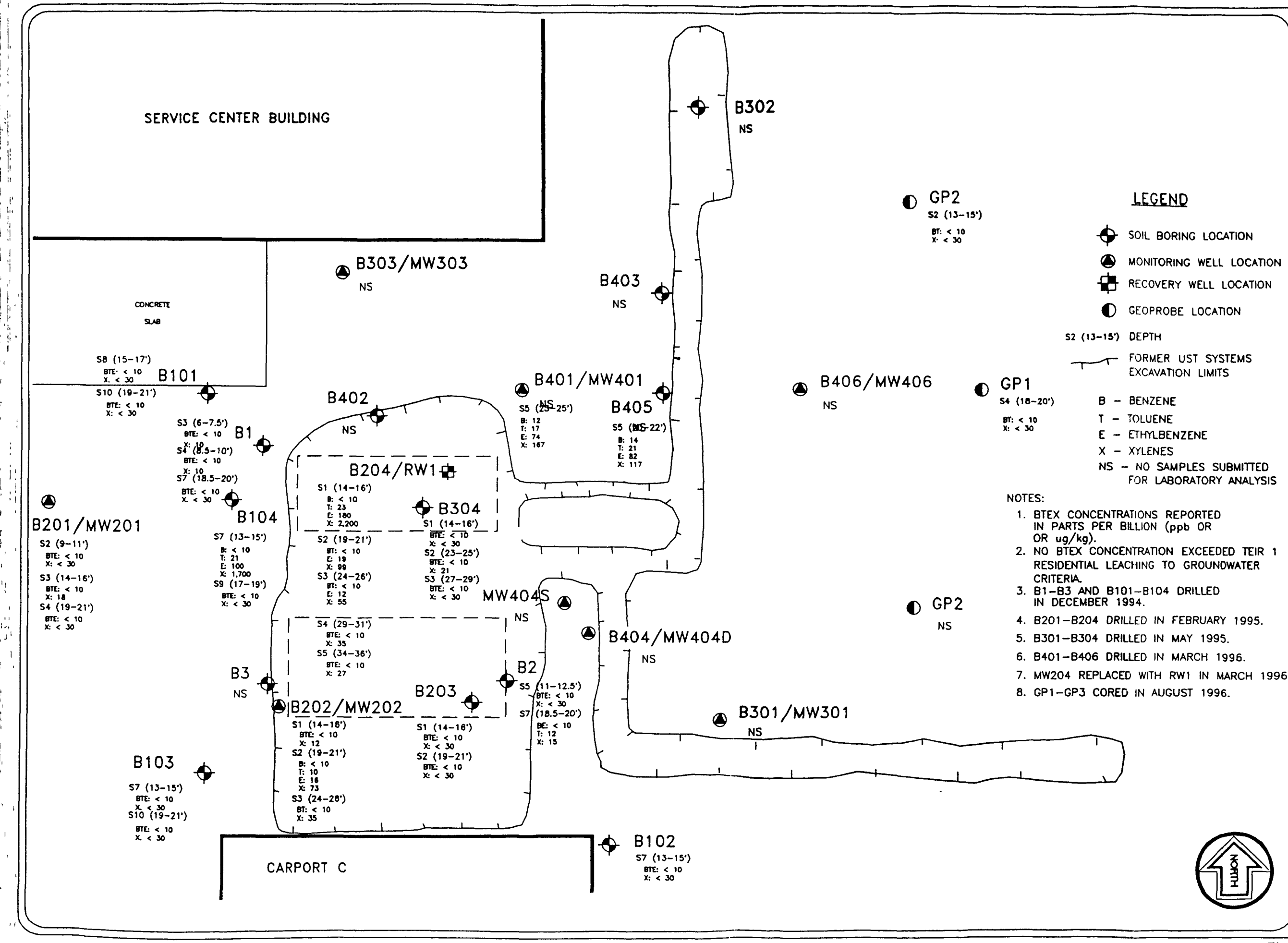
DATE: 9-17-96
SCALE: 1" = 5'
DRAFTER: ARR
JOB: PE 21914

BAY CITY KALAMAZOO LANSING
PLYMOUTH TOLEDO

FILE NAME H 21914-31

K00004614

Figure No. 7-B



LEGEND

- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- RECOVERY WELL LOCATION
- GEOPROBE LOCATION
- S2 (13-15') DEPTH
- FORMER UST SYSTEMS EXCAVATION LIMITS
- B – BENZENE
- T – TOLUENE
- E – ETHYLBENZENE
- X – XYLENES
- NS – NO SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

NOTES:

1. BTEX CONCENTRATIONS REPORTED IN PARTS PER BILLION (ppb OR OR ug/kg).
2. NO BTEX CONCENTRATION EXCEEDED TEIR 1 RESIDENTIAL LEACHING TO GROUNDWATER CRITERIA.
3. B1–B3 AND B101–B104 DRILLED IN DECEMBER 1994.
4. B201–B204 DRILLED IN FEBRUARY 1995.
5. B301–B304 DRILLED IN MAY 1995.
6. B401–B406 DRILLED IN MARCH 1996.
7. MW204 REPLACED WITH RW1 IN MARCH 1996.
8. GP1–GP3 CORED IN AUGUST 1996.

SOIL ANALYTICAL RESULTS DIAGRAM
SOIL BORING – BTEX
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN

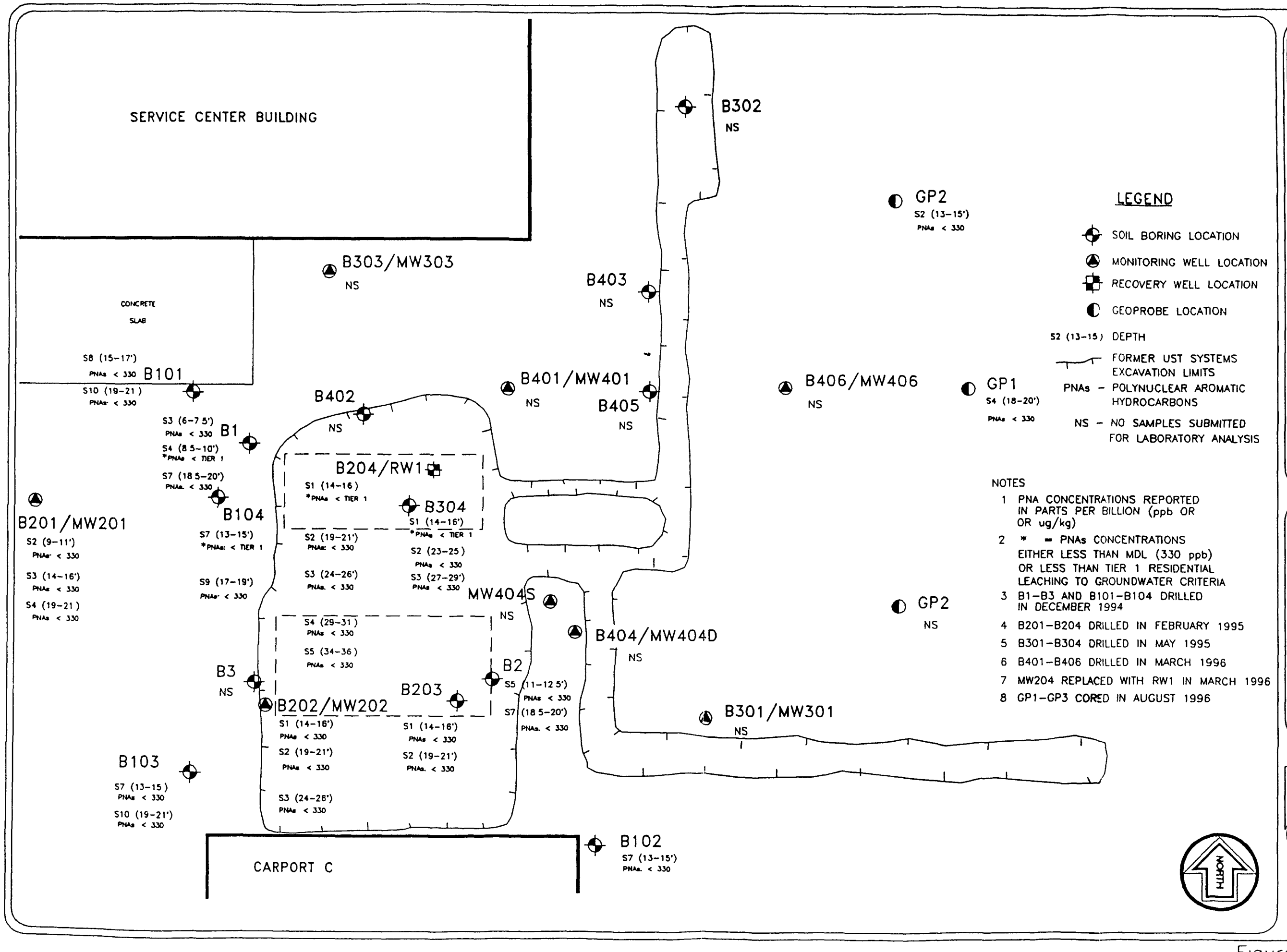
DATE: 8-22-96
SCALE: 1" = 10'
DRAFTER: ARR
JOB: PE 21914

BAY CITY KALAMAZOO LANSING
PLYMOUTH TOLEDO

FILE NAME H:21914-32

Figure No. 7-C

K00004615



LEGEND

- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- RECOVERY WELL LOCATION
- GEOPROBE LOCATION
- S2 (13-15) DEPTH
- FORMER UST SYSTEMS EXCAVATION LIMITS
- PNAs – POLYNUCLEAR AROMATIC HYDROCARBONS
- NS – NO SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

NOTES

1. PNA CONCENTRATIONS REPORTED IN PARTS PER BILLION (ppb OR OR ug/kg)
2. * = PNAs CONCENTRATIONS EITHER LESS THAN MDL (330 ppb) OR LESS THAN TIER 1 RESIDENTIAL LEACHING TO GROUNDWATER CRITERIA
3. B1–B3 AND B101–B104 DRILLED IN DECEMBER 1994
4. B201–B204 DRILLED IN FEBRUARY 1995
5. B301–B304 DRILLED IN MAY 1995
6. B401–B406 DRILLED IN MARCH 1996
7. MW204 REPLACED WITH RW1 IN MARCH 1996
8. GP1–GP3 CORED IN AUGUST 1996

SOIL ANALYTICAL RESULTS DIAGRAM
SOIL BORING – PNAs
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN

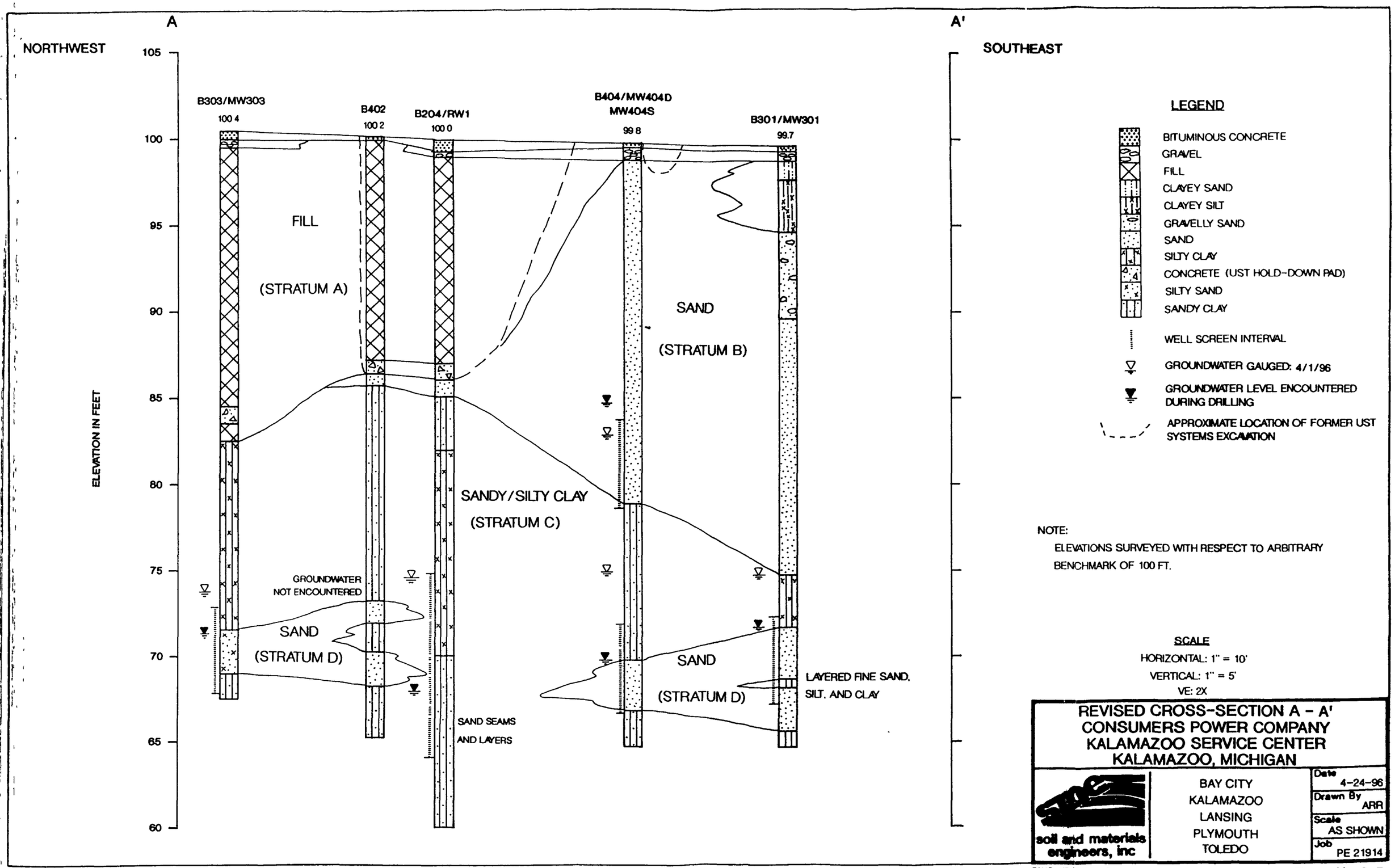
DATE: 8-22-96
SCALE: 1" = 10'
DRAFTER: ARR
JOB: PE 21914

BAY CITY KALAMAZOO LANSING
PLYMOUTH TOLEDO

FILE NAME H 21914-32

Figure No 7-D

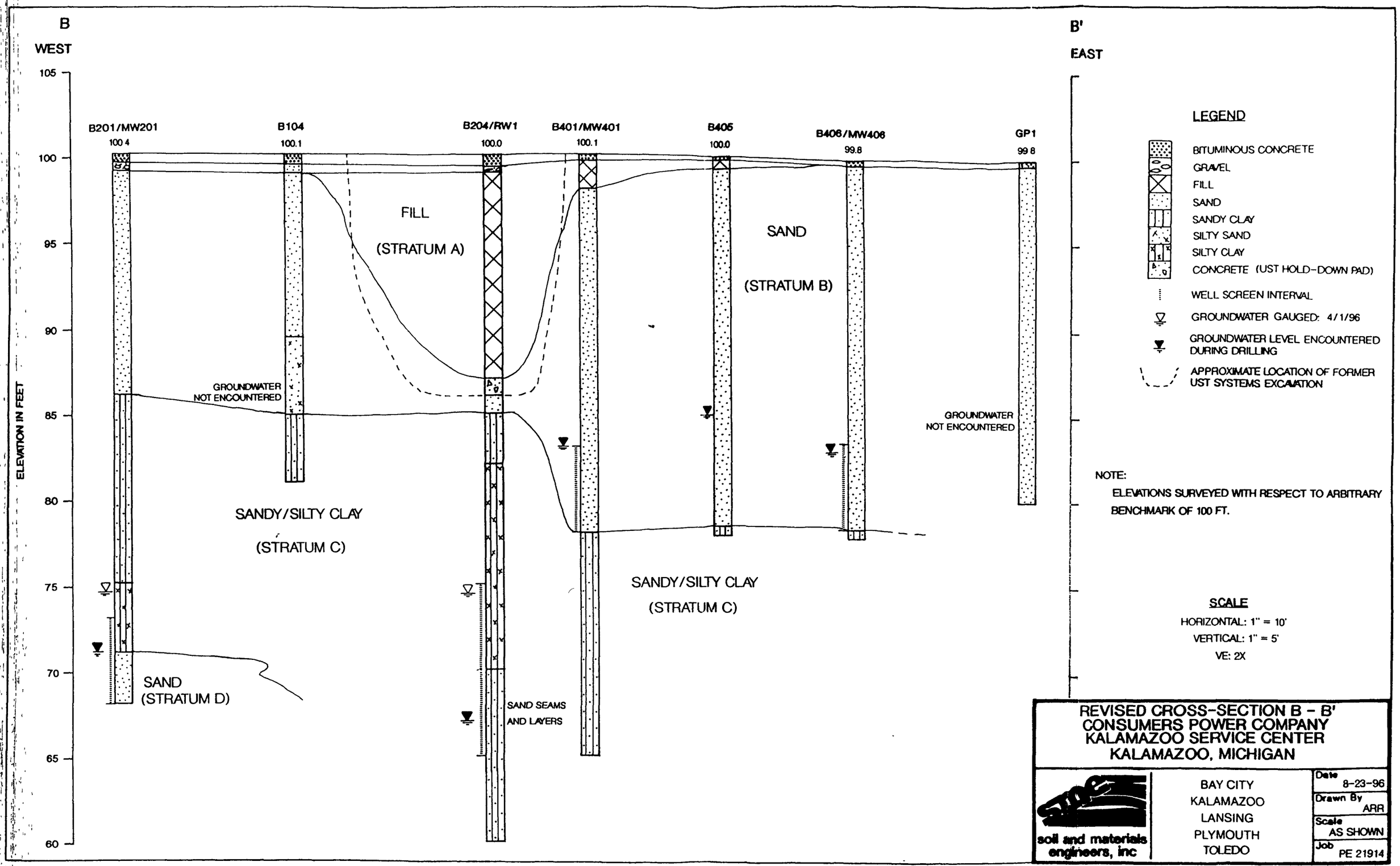
K00004616



DWG. NO. 21914-24

K00004617

Figure No. 8-B



REVISED CROSS-SECTION B - B'
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN

soil and materials engineers, inc

BAY CITY
KALAMAZOO
LANSING
PLYMOUTH
TOLEDO

Date	8-23-96
Drawn By	ARR
Scale	AS SHOWN
Job	PE 21914

DWG. NO. 21914-25

K00004618

Figure No. 8-C

EXHIBIT 5

MAY 8, 1998

SEVENTH QUARTER GROUNDWATER MONITORING REPORT

KALAMAZOO SERVICE CENTER

K00004619

Consumers Energy

A CMS Energy Company

Environmental & Technical
Services Department
1945 West Parnall Road
Jackson, MI 49201-8643

Tel: 517 788 1930
Fax: 517 788 2329

May 8, 1998 7SM905.9.6

Ms Debra S Clark
Underground Storage Tank Division
Plainwell District Office
Michigan Department of Environmental Quality
1342 SR-89, Suite B
Plainwell, MI 49080-1915

SEVENTH QUARTER GROUNDWATER MONITORING REPORT
KALAMAZOO SERVICE CENTER
2500 EAST CORK STREET, KALAMAZOO
MERA #390151
FACILITY ID 0-017371

Consumers Energy Company has reviewed the enclosed "Seventh Quarter Groundwater Monitoring Report for Corrective Action Implementation" as prepared by our site consultant, Soil and Materials Engineers, Inc (SME). The SME report summarizes the activities and results of additional groundwater monitoring pursuant to the "Final Assessment Report" submitted on September 25, 1996.

Measurable free product has not been encountered in MW-401 since February 1997. Furthermore, free product has not been encountered in RW-1 (formerly MW-204) since the construction of RW-1 in March 1996.

A few monitoring wells continue to indicate parameters above residential cleanup criteria. Groundwater monitoring at selected monitoring wells may continue pending review of potential closure alternatives, including a Tier 2 Closure.

If there are any questions, please do not hesitate to contact me on 517-788-0350, or Ms Cheryl Kehres-Dietrich at SME on 313-454-9900.

Robert G Neumann PE
UST Compliance Engineer
Environmental and Technical Services Department

cc CAKehres-Dietrich, SME, letter only AMAurino, Owosso LABaker, P-11-212
AFGoodman, M-1041 DSHaueisen, Kalamazoo RBEldridge, Lansing

K00004620

00598-08.RGN

DEQ MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION

LEAKING UNDERGROUND STORAGE TANK SUPPLEMENTAL REPORT COVER SHEET

Authorized by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), Part 213.

INSTRUCTIONS: Complete this form with all applicable information. Attach this form to all supplemental LUST submittals; this includes all reports other than the Initial Assessment, Final Assessment, and Closure Reports. The Certified Underground Storage Tank Professional (CP) MUST sign below.

IDENTIFY TYPE OF SUPPLEMENTAL REPORT: Seventh Quarter Groundwater Monitoring Report

FACILITY NAME: Consumers Energy Company - Kalamazoo Service Center	FACILITY ID NUMBER: 0-017371
STREET ADDRESS: 2500 East Cork Street	MERA SITE ID NUMBER: 390151
CITY: Kalamazoo STATE: Michigan ZIP CODE: 49001 COUNTY: Kalamazoo	
DATE(S) RELEASE(S) DISCOVERED: 10/19/94	CONFIRMED RELEASE NUMBER(S): C1243-94 (diesel UST) C1255-95 (gas UST)
O/O NAME: Consumers Energy Company	MUSTFA CLAIM NUMBER: 042691-1250
O/O STREET ADDRESS: 1945 West Parnall Road CITY: Jackson STATE: Michigan ZIP CODE: 49201	
CONTACT PERSON: Mr. Robert G. Neumann	PHONE NUMBER: (517) 788-0350

ANSWER ALL QUESTIONS

1. Type(s) of product released: Diesel/Gasoline

2. Free product present: a. Currently? ___ YES X NO If YES, total gallons recovered since last report: 0
   b. Previously? X YES ___ NO If YES, total gallons recovered to date: RW1 = 53 MW401 = 0.12 to 0.15

3. Have vapors been identified in any confined spaces (basement, sewers)? ___ YES X NO

4. Estimated depth to groundwater: Upper Unit: 17 ft. Lower Unit: 26 ft. Estimated groundwater flow direction: Upper Unit: North Lower Unit: Northwest

5. Estimated distance and direction from point of release to nearest:
   a. Private well: approx. 1 mile northeast b. Municipal well: approx. 2.3 miles northwest c. Surface water/wetland: approx. 625 feet east

6. Since last report: a. cubic yards of soil remediated: 0 b. gallons of groundwater remediated: 0

7. Totals to date: a. cubic yards of soil remediated: 280 b. gallons of groundwater remediated: 0

8. Michigan RBCA Site Classification (1-4): 4

CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate, and complete. I certify that it was submitted to the USTD on 5/8/98.
(Date submitted-Required)

CA Kehres-Dietrich 5/8/98
CP Original Signature - Required Date

Patrick G. Barrese
PRINT QC Project Manager's Name

Cheryl A. Kehres-Dietrich
PRINT CP's Name

Soil and Materials Engineers, Inc.
NAME OF CONSULTING FIRM

43980 Plymouth Oaks Blvd.
ADDRESS

(313) 454-9900 (313) 454-0629
PHONE NO. FAX NO.

Please return this completed report cover sheet and associated attachments to the appropriate USTD District Office listed on the back of this page.

K00004621

EQP3849 (2/96)

soil and materials engineers, inc.

43980 Plymouth Oaks Blvd. Plymouth, MI 48170-2584 (734) 454-9900 FAX (734) 454-0629

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Frank A. Henderson, PG
Gerald M. Belian, PE
Garrett H. Evans, PE
Larry P. Jedele, PE
Starr D. Kohn, PhD, PE
Edward S. Lindow, PE
Gerard P. Madej, PE
Robert C. Rabeler, PE
Robert E. Zayko, PE

Timothy H. Bedenis, PE
J. William Coberly, CET
Chuck A. Gemayel, PE
Cheryl Kehres-Dietrich, CGWP
Mark K. Kramer, PE
Thomas P. Rozman, PE
Sheryl K. Fountain
Michael E. Gase, CWI
E. Laney Henson
Herbert A. Hoskins, CHMM
Davie J. Hurlburt, PE
Cary T. Kellier, PE
Truman F. Maxwell, CPA
Michael S. Meddock, PE
Timothy J. Mitchell, PE
Thomas M. Peet, PE
Thomas M. Powell
Larry W. Shook, PE
John C. Zarzecki, CWI

1964 34 1998 Years of Service

May 8, 1998

Mr. Robert G. Neumann, P.E.
UST Compliance Engineer
Environmental & Technical Services Department
Consumers Energy Company
1945 W. Parnall Road, Room P-22-520
Jackson, Michigan 49201

RE: Seventh Quarter Groundwater Monitoring Report for
Corrective Action Implementation
Former Gasoline and Diesel UST Systems
Kalamazoo Service Center
Consumers Energy Company
Kalamazoo, Michigan
SME Project No. PE21914

Dear Mr. Neumann:

This letter presents the results and conclusions for the 7th quarter of groundwater monitoring that SME conducted at the above referenced facility on April 22, 1998. As stated in the "Final Assessment Report," (FAR), dated September 25, 1996, quarterly groundwater monitoring is being conducted as a corrective action to demonstrate a reduction in residual hydrocarbon impact to groundwater by natural attenuation.

SCOPE OF WORK

The following scope of work was performed for the 7th quarter groundwater monitoring event:

(1) Gauged static groundwater elevations at MW201, MW202, MW301, MW303, MW404S, MW406, RW1 and RW2 on April 22, 1998. The groundwater elevation at MW404D was not gauged due to a procedural oversight. Figure 1 of Attachment A shows the locations of the monitoring wells.

(2) Collected groundwater samples from MW404S, MW406, RW1 and RW2 for laboratory analysis of benzene, toluene, ethylbenzene and xylene(s) (BTEX), polynuclear aromatic hydrocarbons (PNAs) and dissolved lead. Also, dissolved oxygen (DO) levels were measured at each of these wells in the field.

(3) Prepared this summary letter report which includes:

a. groundwater elevation diagrams for both the upper and lower groundwater units for the 7th quarter;

K00004622

b analytical test results; and

c. conclusions regarding the analytical test results.

Groundwater sampling procedures, as well as analytical methods and detection limits, were consistent with those presented in previous monitoring reports. Groundwater samples were submitted to Consumers Energy Company's (Consumers Energy's) Chemistry & Material Services Department (C&MSD) in Jackson, Michigan for analysis.

RESULTS

The results for the 7th quarter groundwater sampling event are discussed below. Table 1 of Attachment B lists groundwater elevations gauged during the 7th quarter (April, 1998) groundwater sampling event and previous groundwater gauging results. Table 2 of Attachment B lists the analytical results for the 7th quarter (April, 1998) groundwater sampling event and previous rounds of groundwater samples. Copies of analytical test results for the April, 1998 groundwater sampling event are presented in Attachment C.

MW201, MW202, MW301, MW303 and MW404D were not sampled for this quarterly sampling event per the recommendations presented in the "Fourth Quarter Groundwater Monitoring Report," dated August 12, 1997. SME recommended that MW201, MW202, MW301, MW303 and MW404D no longer be monitored since BTEX, PNAs and dissolved lead concentrations at these wells have been either less than method detection limits (MDLs) or less than Tier 1 Residential Criteria for a minimum of 6 consecutive sampling events.

Upper Groundwater Unit

Groundwater Elevations

For the Upper Groundwater Unit, groundwater was gauged at depths of approximately 16.0 feet below top-of-casing at MW404S and MW406 and approximately 16.2 feet below top-of-casing at RW2. Figure 2 of Attachment A shows a groundwater elevation contour diagram for the April 22, 1998 groundwater sampling event. Compared to groundwater levels gauged in January, 1998 the depth to groundwater was higher by approximately 0.7 feet for the April, 1998 groundwater sampling event at MW404S, MW406 and RW2. Groundwater elevations indicate groundwater flow is to the north with a calculated horizontal hydraulic gradient of less than 0.01 feet per foot. The indicated groundwater flow direction is consistent with previous groundwater sampling events where groundwater flow has been to the north - northeast.

Analytical Results

For RW2, ethylbenzene, xylene(s) and dissolved lead concentrations were 350 ppb, 4,000 ppb and 13 ppb, respectively. These concentrations exceed the Tier 1 Residential Criteria of 74 ppb for ethylbenzene, 280 ppb for xylene(s) and 4 ppb for dissolved lead. The indicated concentrations for benzene, toluene and PNA compounds were either less than the MDLs or less than the Tier 1 Residential Criteria.

For MW404S, the dissolved lead concentration was 4 ppb which is equal to the Tier 1 Residential Criterion. BTEX and PNA concentrations were either less than the MDLs or the Tier 1 Residential Criteria.

For MW406, ethylbenzene and xylene(s) concentrations were 580 ppb and 670 ppb, respectively, which exceed the Tier 1 Residential Criteria. Benzene, toluene, dissolved lead and PNA concentrations were either less than the corresponding MDLs or the corresponding Tier 1 Residential Criteria.

DO measurements for RW2, MW404S and MW406 were 0.88 parts per million (ppm), 3.91 ppm and 0.51 ppm, respectively. Compared to DO measurements for January, 1998, the measured values were lower at each well. The DO measurements for RW2 and MW406 suggests anaerobic conditions, while the DO measurement at MW404S suggests aerobic conditions.

Free Product

Measurable free product was not encountered at MW404S, MW406 and RW2 during groundwater sampling activities nor was a hydrocarbon sheen observed on groundwater samples obtained from MW404S and MW406. A slight hydrocarbon sheen was observed during groundwater sampling activities at RW2. Measurable free product had not been encountered at RW2 (former monitoring well MW401) since February, 1997.

Lower Groundwater Unit

Groundwater Elevations

For the Lower Groundwater Unit, groundwater was gauged at depths ranging from approximately 25.1 feet below top-of-casing at RW1 to approximately 25.9 feet below top-of-casing at MW303. The groundwater level gauged at MW301 was not used for the interpretation of groundwater elevation data for the 7th quarter due to an apparent gauging error. Figure 3 of Attachment A shows a groundwater elevation contour diagram for the April 22, 1998 groundwater sampling event. Compared to groundwater levels gauged in January, 1998 the depth to groundwater at MW201, MW202, MW303 and RW1 was higher by approximately 0.7 to 0.9 feet. Groundwater elevations indicate a northwesterly groundwater flow direction with a calculated horizontal hydraulic gradient of approximately 0.03 feet per foot. The indicated groundwater flow direction and gradient are consistent with past groundwater sampling events.

Analytical Results

For RW1, BTEX, PNA and dissolved lead concentrations were either less than the MDLs or less than the Tier 1 Residential Criteria. The DO level at RW1 was measured at 3.6 ppm which is lower compared to the level measured during the January, 1998 groundwater monitoring event.

Free product was not encountered in wells screened within the lower groundwater unit.

CONCLUSIONS

Upper Groundwater Unit

Groundwater Elevations

Groundwater elevations gauged in April, 1998 indicated a groundwater flow direction to the north. This groundwater flow direction is consistent with previously observed groundwater flow directions.

Analytical Results

For RW2, concentrations of toluene, ethylbenzene, xylene(s) and the PNA compounds naphthalene and 2-methylnaphthalene were slightly higher than the January, 1998 concentrations. However, the concentration of dissolved lead was slightly lower than the January, 1998 concentration. Toluene concentrations have either been less than the MDL or the Tier 1 Residential Criterion for 5 consecutive quarters; while benzene concentrations have been less than the MDL for 7 consecutive quarters. PNA concentrations have been less the MDLs or the Tier 1 Residential Criteria for 3 consecutive quarters.

For MW404S, the indicated concentrations for BTEX, PNAs and dissolved lead were relatively equivalent compared to analytical results for the January, 1998 groundwater sampling event. BTEX concentrations have been less than the corresponding Tier 1 Residential Criteria for 8 consecutive quarters. Dissolved lead concentrations have been equal to Tier 1 Residential Criterion for 2 consecutive quarters. PNA concentrations have not been detected above the Tier 1 Residential Criteria since the installation of the well in March, 1996.

For MW406, concentrations of toluene, ethylbenzene, xylene(s) and the PNA compounds naphthalene and 2-methylnaphthalene were slightly higher than the January, 1998 concentrations. Toluene has been less than the Tier 1 Residential Criterion for 8 consecutive quarters; while benzene has been less than the MDL for 7 consecutive quarters.

Free Product

Measurable free product had not been encountered at former monitoring well MW401 since February, 1997. Also free product has not been encountered at RW2 since its installation in November, 1997.

Lower Groundwater Unit

Groundwater Elevations

Groundwater elevations gauged in April, 1998 indicated a groundwater flow direction to the northwest. This groundwater flow direction is consistent with previously observed groundwater flow directions.

Analytical Results

For RW1, BTEX and dissolved lead concentrations have been either less than the MDLs or the Tier 1 Residential Criteria for 8 consecutive groundwater sampling events. PNA concentrations have been less than the corresponding Tier 1 Residential Criteria for 5 consecutive quarters.

The 8th quarter groundwater sampling event for continued corrective action implementation is scheduled for the week of July 6, 1998. Subject to the completion and review of a Tier 2 analysis, a Tier 2 Closure Report may be presented as an alternative. If you have any questions or comments concerning this report, please call.

Sincerely,

SOIL AND MATERIALS ENGINEERS, INC.

Patrick G. Barrese, CPG
Project Geologist

Cheryl A. Kehres-Dietrich, CGWP
Manager-Environmental Services

Attachments:

Attachment A: Figure 1 - Monitoring Well Location Diagram
Figure 2 - Upper Groundwater Unit, Groundwater Elevation Contours, April 22, 1998
Figure 3 - Lower Groundwater Unit, Groundwater Elevation Contours, April 22, 1998

Attachment B: Table 1 - Groundwater Elevation Summary
Table 2 - Analytical Summary - Groundwater

Attachment C: Analytical Test Results

S\BARRESE\PE21914\PGB5-6.RPT\5-8-98\PGB - FINAL

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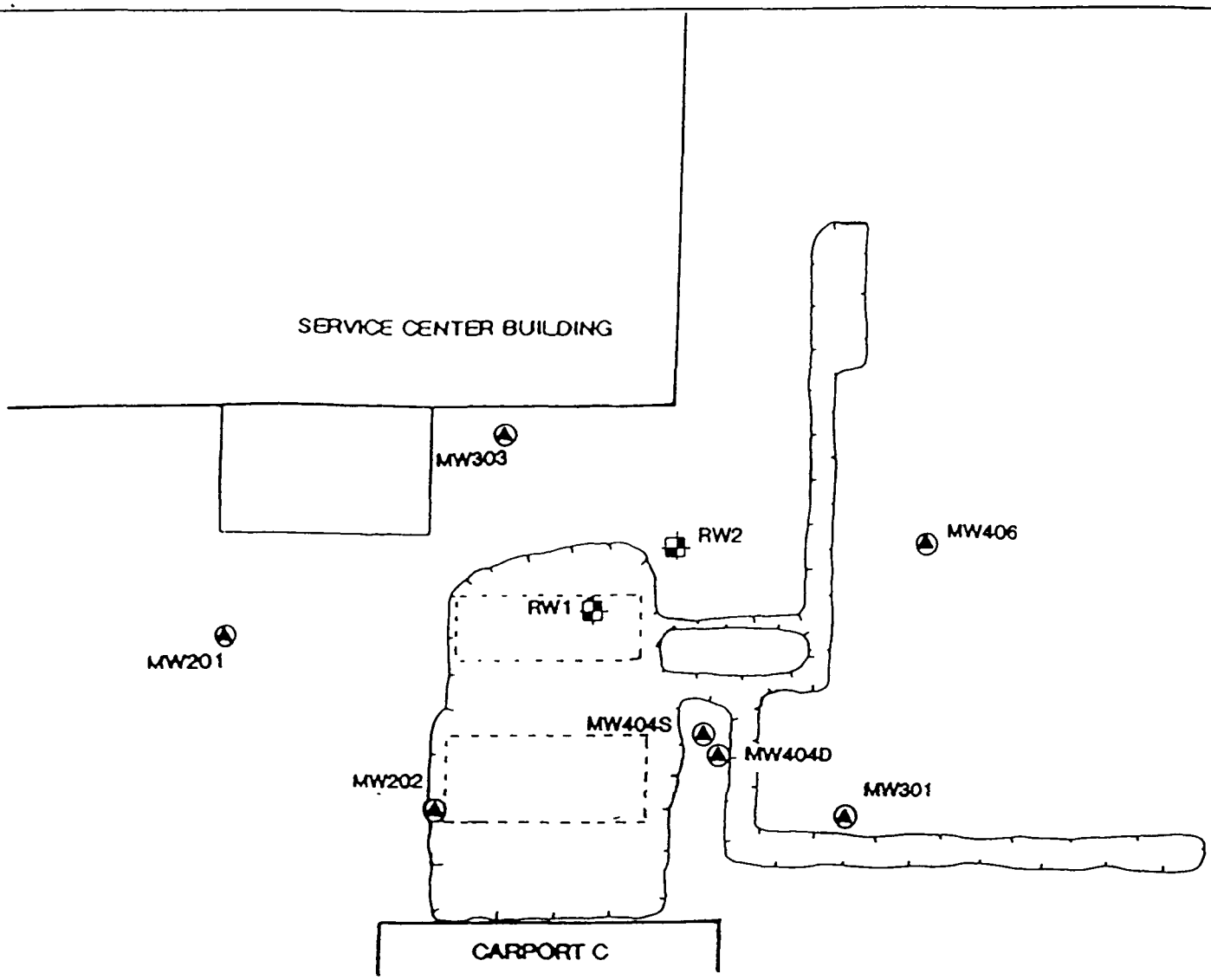
ATTACHMENT A
FIGURES



NOTES:

1. MW201 – MW202 WERE INSTALLED IN FEBRUARY 1995.
2. MW301 – MW303 WERE INSTALLED IN MAY 1995.
3. MW401, MW404S, MW404D & MW406 WERE INSTALLED IN MARCH 1996.
4. RW1 WAS INSTALLED IN MARCH 1996 BY OVERDRILLING MW204.
5. RW2 WAS INSTALLED IN NOVEMBER 1997 BY OVERDRILLING MW401.
6. MW201, MW202, MW301, MW303, MW404D & RW1 ARE SCREENED IN THE LOWER GROUNDWATER UNIT.
7. MW404S, MW406 & RW2 ARE SCREENED IN THE UPPER GROUNDWATER UNIT.

LEGEND

RW1 RECOVERY WELL

MW301 MONITORING WELL

FORMER UST SYSTEMS EXCAVATION

SCALE IN FEET

0 10 20 40

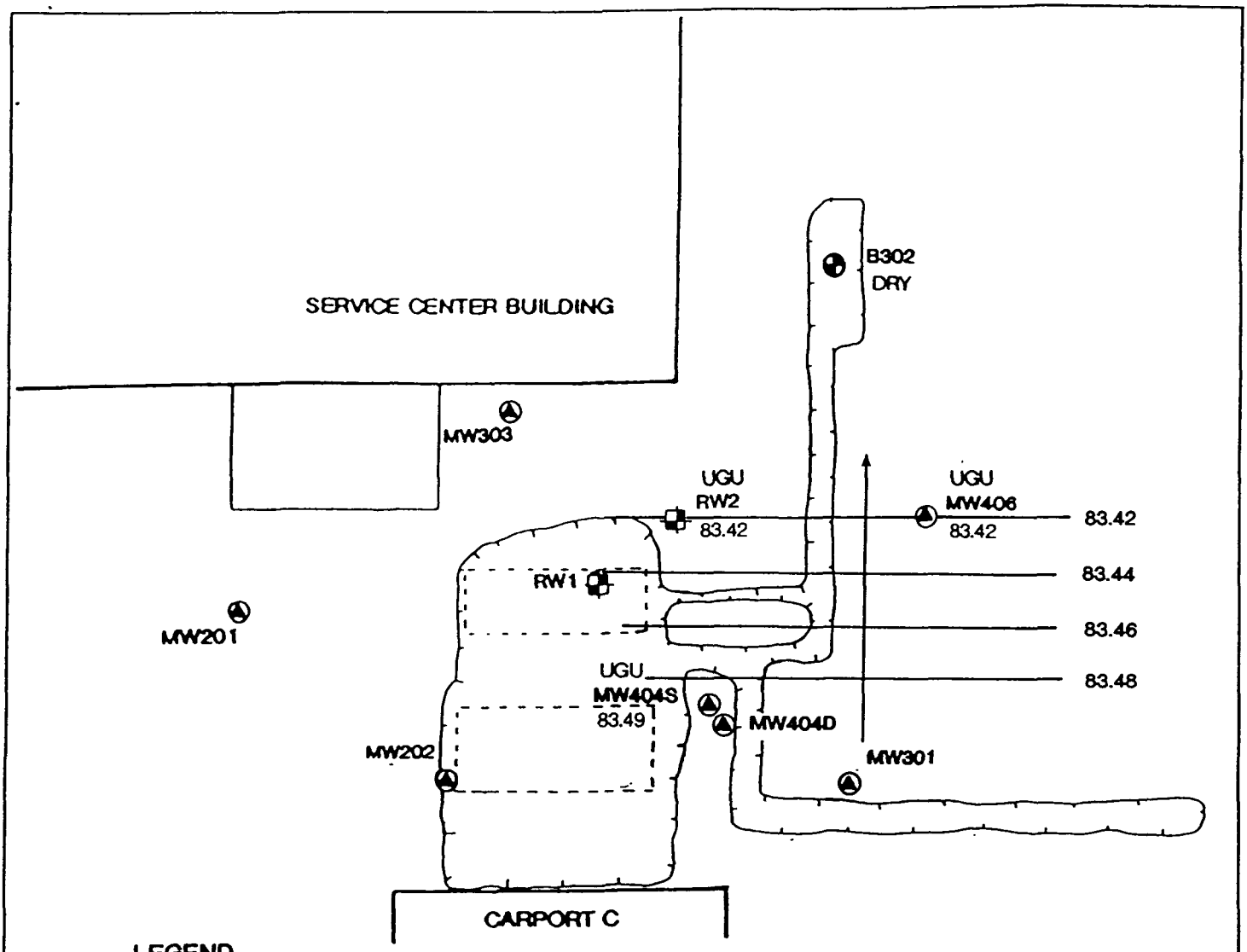
NORTH

Date 1-16-98	BAY CITY KALAMAZOO LANSING PLYMOUTH TOLEDO	soil and materials engineers, inc.	MONITORING WELL LOCATION DIAGRAM CONSUMERS POWER COMPANY KALAMAZOO SERVICE CENTER KALAMAZOO, MICHIGAN
Drawn By ARR/TAC			
Scale 1" = 20'			
Job PE 21914			

DWG NO 21914-17

K00004628

Figure No. 1



LEGEND

- SOIL BORING LOCATION
- RW1 — RECOVERY WELL
- MW406 — MONITORING WELL
- MW406 83.42 — GROUNDWATER ELEVATION SURVEYED WITH RESPECT TO ARBITRARY DATUM = 100 FT.
- FORMER UST SYSTEMS EXCAVATION
- GROUNDWATER FLOW DIRECTION

CI = 0.02 FT.

UGU = WELL SCREENED IN THE UPPER GROUNDWATER UNIT

DRY = NO GROUNDWATER ENCOUNTERED IN UPPER GROUNDWATER UNIT

NOTES:

1. MW201 – MW202 WERE INSTALLED IN FEBRUARY 1995.
2. MW301 – MW303 WERE INSTALLED IN MAY 1995.
3. MW401, MW404S, MW404D & MW406 WERE INSTALLED IN MARCH 1996.
4. RW1 WAS INSTALLED IN MARCH 1996 BY OVERDRILLING MW204.
5. RW2 WAS INSTALLED IN NOVEMBER 1997 BY OVERDRILLING MW401.
6. MW201, MW202, MW301, MW303, MW404D & RW1 ARE SCREENED IN THE LOWER GROUNDWATER UNIT.
7. MW404S, MW406 & RW2 ARE SCREENED IN THE UPPER GROUNDWATER UNIT.

SCALE IN FEET

0 10 20 40

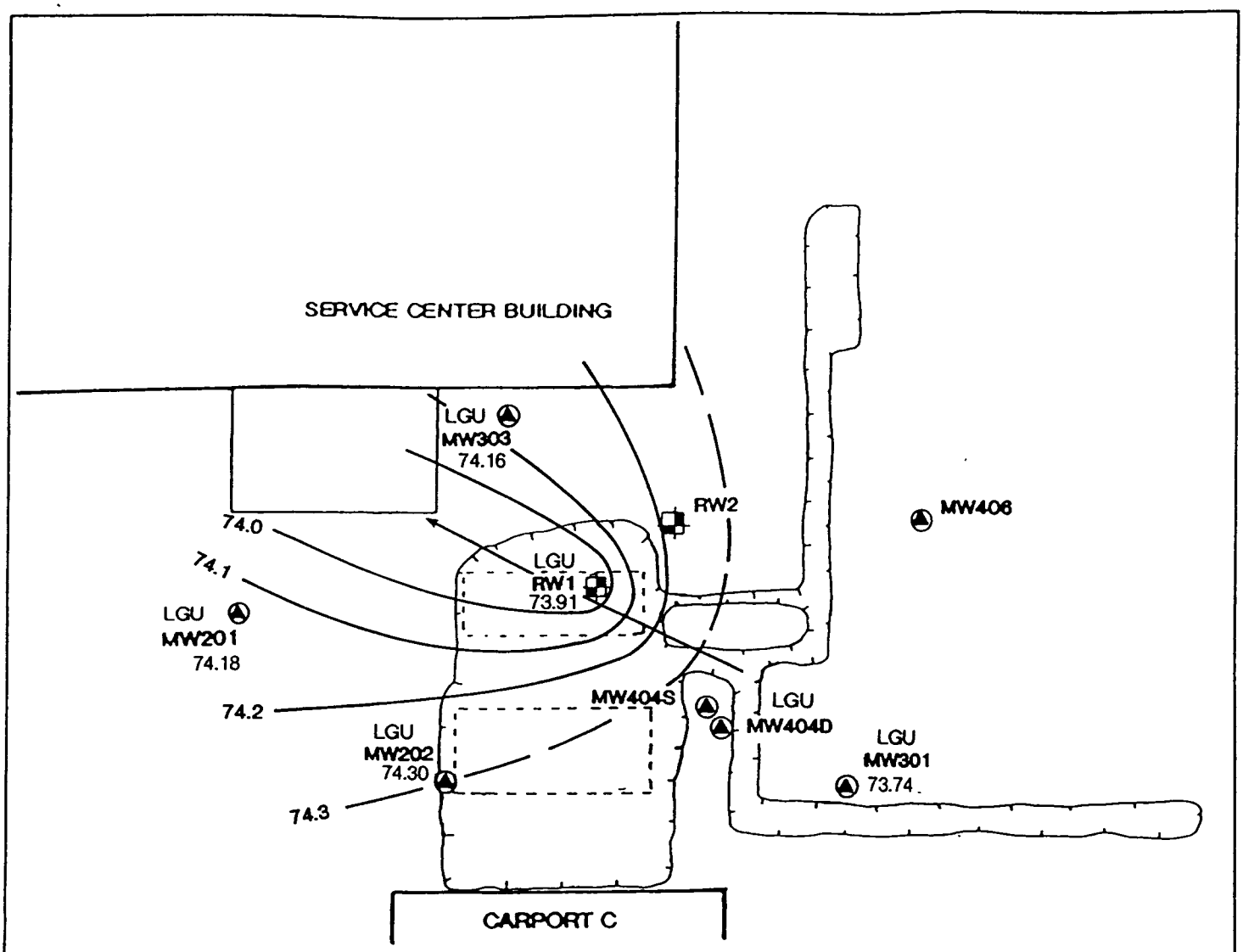
NORTH

Date 5-6-98	BAY CITY	soil and materials engineers, inc.	UPPER GROUNDWATER UNIT GROUNDWATER ELEVATION CONTOURS APRIL 22, 1998 CONSUMERS ENERGY COMPANY KALAMAZOO SERVICE CENTER KALAMAZOO, MICHIGAN
Drawn By ARR	KALAMAZOO		
Scale 1" = 20'	LANSING		
Job PE 21914	PLYMOUTH		
	TOLEDO		

DWG. NO 21914-47

K00004629

Figure No. 2



LEGEND

RW1 — RECOVERY WELL

MW303 — MONITORING WELL

MW303 74.16 — GROUNDWATER ELEVATION SURVEYED WITH RESPECT TO ARBITRARY DATUM = 100 FT.

FORMER UST SYSTEMS EXCAVATION

GROUNDWATER FLOW DIRECTION

CI = 0.1 FT.

LGU = WELL SCREENED IN THE LOWER GROUNDWATER UNIT

NOTES:

1. MW201 – MW202 WERE INSTALLED IN FEBRUARY 1995.
2. MW301 – MW303 WERE INSTALLED IN MAY 1995.
3. MW401, MW404S, MW404D & MW406 WERE INSTALLED IN MARCH 1996.
4. RW1 WAS INSTALLED IN MARCH 1996 BY OVERDRILLING MW204.
5. RW2 WAS INSTALLED IN NOVEMBER 1997 BY OVERDRILLING MW401.
6. MW201, MW202, MW301, MW303, MW404D & RW1 ARE SCREENED IN THE LOWER GROUNDWATER UNIT.
7. MW404S, MW406 & RW2 ARE SCREENED IN THE UPPER GROUNDWATER UNIT.
8. GROUNDWATER ELEVATION AT MW301 WAS NOT USED TO INTERPRET GROUNDWATER FLOW DUE TO AN APPARENT GAUGING ERROR.

0 10 20 40
SCALE IN FEET

NORTH

Date 5-6-98	BAY CITY KALAMAZOO LANSING PLYMOUTH TOLEDO	soil and materials engineers, inc.	LOWER GROUNDWATER UNIT GROUNDWATER ELEVATION CONTOURS APRIL 22, 1998 CONSUMERS ENERGY COMPANY KALAMAZOO SERVICE CENTER KALAMAZOO, MICHIGAN
Drawn By ARR			
Scale 1" = 20'			
Job PE 21914			

DWG. NO. 21914-48

Figure No. 3

K00004630

ATTACHMENT B
TABLES

K00004631

TABLE 1

GROUNDWATER ELEVATION SUMMARY
FORMER GASOLINE AND DIESEL UST SYSTEMS
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
Kalamazoo, Michigan
SME Project No. PE21914

Monitoring Well ID	Elevation Top of Casing (ft.)	2/17/95		5/22/95		9/21/95		12/26/95	
		Depth to Water (ft. below TOC)	Static Water Elevation (ft.)	Depth to Water (ft. below TOC)	Static Water Elevation (ft.)	Depth to Water (ft. below TOC)	Static Water Elevation (ft.)	Depth to Water (ft. below TOC)	Static Water Elevation (ft.)
UPPER UNIT									
MW401	99.67	NI	NI	NI	NI	NI	NI	NI	NI
MW404S	99.50	NI	NI	NI	NI	NI	NI	NI	NI
MW406	99.45	NI	NI	NI	NI	NI	NI	NI	NI
RW2	99.60	NI	NI	NI	NI	NI	NI	NI	NI
LOWER UNIT									
MW201	99.61	25.36	74.25	24.78	74.83	25.73	73.88	25.75	73.86
MW202	99.70	25.29	74.41	24.72	74.98	25.59	74.11	25.71	73.99
MW204	99.61	25.29	74.32	FP	FP	FP	FP	FP	FP
MW301	99.26	NI	NI	23.79	75.47	24.72	74.54	24.76	74.50
MW303	100.10	NI	NI	25.28	74.82	26.21	73.89	26.23	73.87
MW404D	99.16	NI	NI	NI	NI	NI	NI	NI	NI
RW1	99.04	NI	NI	NI	NI	NI	NI	NI	NI

Notes:
(1) Elevations surveyed with respect to an arbitrary datum = 100 ft.
(2) NI = Monitoring well not installed at time of gauging.
(3) WR = Monitoring well removed and replaced with RW1 in March, 1996.
(4) FP = Measurable free product, greater than or equal to 1/8 inch, observed in well.
(5) NG = Water level not gauged.

S\BARRESE\PE21914\5-5T1\5-5-98\PGB

K00004632

TABLE 1 – Continued

GROUNDWATER ELEVATION SUMMARY
FORMER GASOLINE AND DIESEL UST SYSTEMS
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
Kalamazoo, Michigan
SME Project No. PE21914

Monitoring Well ID	Elevation Top of Casing (ft.)	4/1/96		6/21/96		10/8/96		1/9/97	
		Depth to Water (ft. below TOC)	Static Water Elevation (ft.)	Depth to Water (ft. below TOC)	Static Water Elevation (ft.)	Depth to Water (ft. below TOC)	Static Water Elevation (ft.)	Depth to Water (ft. below TOC)	Static Water Elevation (ft.)
UPPER UNIT									
MW401	99.67	17.00	82.67	16.70	82.97	17.30	82.37	FP	FP
MW404S	99.50	16.80	82.70	16.50	83.00	17.09	82.41	16.51	82.99
MW406	99.45	16.79	82.66	16.50	82.95	17.08	82.37	16.54	82.91
RW2	99.60	NI	NI	NI	NI	NI	NI	NI	NI
LOWER UNIT									
MW201	99.61	25.99	73.62	25.37	74.24	25.95	73.66	25.57	74.04
MW202	99.70	25.93	73.77	25.30	74.40	25.91	73.79	25.53	74.17
MW204	99.61	WR	WR	WR	WR	WR	WR	WR	WR
MW301	99.26	25.00	74.26	24.36	74.90	25.03	74.23	24.64	74.62
MW303	100.10	26.49	73.61	25.89	74.21	26.46	73.64	26.09	74.01
MW404D	99.16	25.09	74.07	24.44	74.72	25.09	74.07	24.71	74.45
RW1	99.04	25.60	73.44	24.96	74.08	25.56	73.48	25.45	73.59

Notes:
(1) Elevations surveyed with respect to an arbitrary datum = 100 ft.
(2) NI = Monitoring well not installed at time of gauging.
(3) WR = Monitoring well removed and replaced with RW1 in March, 1996.
(4) FP = Measurable free product, greater than or equal to 1/8 inch, observed in well.
(5) NG = Water level not gauged.

S\BARRESE\PE21914\5-5T1\5-5-98\PGB

K00004633

TABLE 1 – Continued

GROUNDWATER ELEVATION SUMMARY
FORMER GASOLINE AND DIESEL UST SYSTEMS
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
Kalamazoo, Michigan
SME Project No. PE21914

Monitoring Well ID	Elevation Top of Casing (ft.)	4/9/97		7/10/97		10/8/97		1/6/98	
		Depth to Water (ft. below TOC)	Static Water Elevation (ft.)	Depth to Water (ft. below TOC)	Static Water Elevation (ft.)	Depth to Water (ft. below TOC)	Static Water Elevation (ft.)	Depth to Water (ft. below TOC)	Static Water Elevation (ft.)
UPPER UNIT									
MW401	99.67	16.45	83.22	16.41	83.26	16.78	82.89	WR	WR
MW404S	99.50	16.22	83.28	16.27	83.23	16.59	82.91	16.70	82.80
MW406	99.45	16.25	83.20	16.29	83.16	16.59	82.86	16.72	82.73
RW2	99.60	NI	NI	NI	NI	NI	NI	16.87	82.73
LOWER UNIT									
MW201	99.61	25.64	73.97	25.43	74.18	26.41	73.20	26.31	73.30
MW202	99.70	25.66	74.04	25.40	74.30	26.35	73.35	26.23	73.47
MW204	99.61	WR	WR	WR	WR	WR	WR	WR	WR
MW301	99.26	24.73	74.53	24.56	74.70	25.36	73.90	25.17	74.09
MW303	100.10	26.23	73.87	25.96	74.14	26.90	73.20	26.81	73.29
MW404D	99.16	24.89	74.27	24.62	74.54	25.47	73.69	25.27	73.89
RW1	99.04	25.13	73.91	25.06	73.98	25.89	73.15	25.83	73.21

Notes:
(1) Elevations surveyed with respect to an arbitrary datum = 100 ft.
(2) NI = Monitoring well not installed at time of gauging.
(3) WR = Monitoring well removed and replaced with RW1 in March, 1996.
(4) FP = Measurable free product, greater than or equal to 1/8 inch, observed in well.
(5) NG = Water level not gauged.

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K0000046634

TABLE 1 – Continued

GROUNDWATER ELEVATION SUMMARY
FORMER GASOLINE AND DIESEL UST SYSTEMS
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
Kalamazoo, Michigan
SME Project No. PE21914

Monitoring Well ID	Elevation Top of Casing (ft.)	4/22/98	
		Depth to Water (ft. below TOC)	Static Water Elevation (ft.)
UPPER UNIT			
MW401	99.67	WR	WR
MW404S	99.50	16.01	83.49
MW406	99.45	16.03	83.42
RW2	99.60	16.18	83.42
LOWER UNIT			
MW201	99.61	25.43	74.18
MW202	99.70	25.40	74.30
MW204	99.61	WR	WR
MW301	99.26	25.52	73.74
MW303	100.10	25.94	74.16
MW404D	99.16	NG	NG
RW1	99.04	25.13	73.91

Notes:
(1) Elevations surveyed with respect to an arbitrary datum = 100 ft.
(2) NI = Monitoring well not installed at time of gauging.
(3) WR = Monitoring well removed and replaced with RW1 in March, 1996.
(4) FP = Measurable free product, greater than or equal to 1/8 inch, observed in well.
(5) NG = Water level not gauged.

S\BARRESE\PE21914\5-5T1\5-5-98\PGB

K00004635

TABLE 2

ANALYTICAL SUMMARY – GROUND WATER
FORMER GASOLINE AND DIESEL UST SYSTEMS
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
Kalamazoo, Michigan
SME Project No. PE21914

B2 (UPPER UNIT) – TEMPORARY WELL

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
12/8/94	<1	1	<1	1	NA	<5	<5	<5	<5	<5	<5	<5	<5	NM

B102 (UPPER UNIT) – TEMPORARY WELL

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
12/23/94	<1	<1	<1	<3	NA	<5	<5	<5	<5	<5	<5	<5	<5	NM

B304 (LOWER UNIT) – TEMPORARY WELL

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
5/15/95	12	76	110	880	<3	12	<5	<5	<5	5	8	<5	<5	NM

B402 (LOWER UNIT) – TEMPORARY WELL

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
3/21/96	<1	<1	<1	<3	11	NA	NA	NA	NA	NA	NA	NA	NA	NM

B403 (UPPER UNIT) – TEMPORARY WELL

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
3/21/96	<1	<1	<1	2	4	NA	NA	NA	NA	NA	NA	NA	NA	NM

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K00004636

TABLE 2 – Continued

ANALYTICAL SUMMARY – GROUND WATER
FORMER GASOLINE AND DIESEL UST SYSTEMS
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
Kalamazoo, Michigan
SME Project No. PE21914

B405 (UPPER UNIT) – TEMPORARY WELL

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
3/22/96	4	510	320	620	<3	NA	NA	NA	NA	NA	NA	NA	NA	NM

MW201 (LOWER UNIT)

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
2/17/95	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
5/22/95	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
9/21/95	<1	<1	<1	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM
12/27/95	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
4/1/96	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
6/21/96	1	2	<1	1	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
10/8/96	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	4.71
1/9/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	2.45
4/9/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	2.48
7/10/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	1.77
10/8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1/6/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/22/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

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K00004637

TABLE 2 – Continued

ANALYTICAL SUMMARY – GROUND WATER
FORMER GASOLINE AND DIESEL UST SYSTEMS
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
Kalamazoo, Michigan
SME Project No. PE21914

MW202 (LOWER UNIT)

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
2/17/95	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
5/22/95	<1	<1	<1	3.5	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
9/21/95	<1	<1	<1	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM
12/27/95	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
4/1/96	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
6/21/96	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
10/8/96	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	3.61
1/9/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	2.11
4/9/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	1.59
7/10/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	1.22
10/8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1/6/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/22/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

RW1 (LOWER UNIT) (FORMERLY MW204)

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
2/17/95	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/22/95	FP (26)	FP (1,700)	FP (1,800)	FP (8,500)	FP (59)	FP (910)	FP (780)	FP (3,700)	FP (10,000)	FP (22,000)	FP (780)	55	<5	NM
9/21/95	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
12/27/95	FP (14)	FP (350)	FP (550)	FP (3,800)	FP (64)	FP (600)	FP (490)	FP (190)	FP (8,400)	FP (1,400)	FP (260)	FP (25)	FP (32)	NM
4/1/96	4	17	82	730	4	<5	<5	<5	<5	<5	<5	<5	<5	NM
6/21/96	2	2	20	45	<3	5	<5	<5	<5	<5	<5	<5	<5	NM
10/8/96	<1	3	28	44	<3	<5	<5	<5	<5	<5	<5	<5	<5	1.04
1/9/97	<1	3	11	28	<3	8	5	28	150	58	24	15	7	3.54
4/9/97	<1	1	9	9	<3	<5	<5	<5	<5	<5	<5	<5	<5	1.28
7/10/97	<1	<1	5	25	<3	9	<5	<5	<5	<5	<5	<5	<5	0.76
10/8/97	<1	6	38	90	<3	<5	<5	<5	<5	<5	<5	<5	<5	2.15
1/6/98	<1	<1	5	8	<3	<5	<5	<5	<5	<5	<5	<5	<5	4.61
4/22/98	<1	1	7	15	<3	<5	<5	<5	<5	<5	<5	<5	<5	3.60

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K00004638

TABLE 2 – *Continued*

ANALYTICAL SUMMARY – GROUND WATER
FORMER GASOLINE AND DIESEL UST SYSTEMS
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
Kalamazoo, Michigan
SME Project No. PE21914

MW301 (LOWER UNIT)

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
5/22/95	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
9/21/95	<1	<1	<1	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM
12/27/95	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
4/1/96	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
6/21/96	<1	<1	<1	1	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
10/8/96	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	4.33
1/9/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	2.36
4/9/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	1.98
7/10/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	1.52
10/8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1/6/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/22/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MW303 (LOWER UNIT)

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
5/22/95	<1	<1	<1	2	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
9/21/95	<1	<1	<1	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM
12/27/95	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
4/1/96	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
6/21/96	1	5	3	44	3	<5	<5	<5	<5	<5	<5	<5	<5	NM
10/8/96	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	9.28
1/9/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	6.55
4/9/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	2.12
7/10/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	2.20
10/8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1/6/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/22/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

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TABLE 2 – Continued

ANALYTICAL SUMMARY – GROUND WATER
FORMER GASOLINE AND DIESEL UST SYSTEMS
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
Kalamazoo, Michigan
SME Project No. PE21914

RW2 (UPPER UNIT) (FORMERLY MW401)

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
3/20/96 (TW)	150	3,800	1,700	18,800	9	NA	NA	NA	NA	NA	NA	NA	NA	NM
4/1/96	5	61	59	1,800	<3	160	15	5	21	9	<5	<5	<5	NM
6/21/96	6	1,300	630	5,900	19	120	52	<5	<5	<5	<5	<5	<5	NM
10/8/96	<1	980	690	7,800	21	50	23	<5	<5	<5	<5	<5	<5	1.54
1/9/97	FP (<1)	FP (1,000)	FP (900)	FP (12,900)	FP (38)	FP (6,000)	FP (1,800)	FP (510)	FP (1,700)	FP (690)	FP (250)	FP (120)	FP (23)	NM
4/9/97	<1	700	750	11,700	20	91	24	16	24	19	8	5	18	1.06
7/10/97	<1	590	510	5,300	21	62	150	130	69	20	34	43	30	1.14
10/8/97	<1	670	680	6,600	10	160	37	5	7	9	<5	<5	<5	0.85
1/6/98	<1	200	210	2,900	15	26	5	<5	<5	<5	<5	<5	<5	1.71
4/22/98	<1	260	350	4,000	13	160	29	<5	<5	<5	<5	5	<5	0.88

MW404S (UPPER UNIT)

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
3/22/96 (TW)	40	22	270	1,310	<3	NA	NA	NA	NA	NA	NA	NA	NA	NM
4/1/96	18	14	76	500	20	13	6	<5	<5	<5	<5	<5	<5	NM
6/21/96	3	10	32	261	10	11	5	<5	<5	<5	<5	<5	<5	NM
10/8/96	1	6	23	188	22	8	6	<5	<5	<5	<5	<5	<5	3.75
1/9/97	1	13	12	137	16	7	5	<5	<5	<5	<5	<5	<5	3.59
4/9/97	3	4	3	25	9	5	<5	<5	<5	<5	<5	<5	<5	3.18
7/10/97	<1	3	1	24	13	8	<5	<5	<5	<5	<5	<5	<5	2.26
10/8/97	<1	3	2	42	6	8	<5	<5	<5	<5	<5	<5	<5	0.45
1/6/98	1	2	1	34	4	<5	<5	<5	<5	<5	<5	<5	<5	6.29
4/22/98	1	4	1	37	4	<5	<5	<5	<5	<5	<5	<5	<5	3.91

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. TABLE 2 – Continued

ANALYTICAL SUMMARY– GROUND WATER
FORMER GASOLINE AND DIESEL UST SYSTEMS
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
Kalamazoo, Michigan
SME Project No. PE21914

MW404D (LOWER UNIT)

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
3/22/96 (TW)	8	3	32	148	<3	NA	NA	NA	NA	NA	NA	NA	NA	NM
4/1/96	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
6/21/96	<1	<1	<1	2	<3	<5	<5	<5	<5	<5	<5	<5	<5	NM
10/8/96	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	3.35
1/7/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	3.35
4/9/97	<1	<1	<1	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	1.86
7/10/97	<1	<1	<1	<3	4	<5	<5	<5	<5	<5	<5	<5	<5	1.11
10/8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1/6/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/22/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MW406 (UPPER UNIT)

Date Sampled	Benzene	Toluene	Ethyl benzene	Xylene(s)	Dissolved Lead	Naph-thalene	2-Methylnaph-thalene	Acena-phthylene	Acena-naphthene	Fluorene	Phenan-threne	Anthra-cene	Fluor-anthene	Dissolved Oxygen
Tier 1	5	790	74	280	4.0	260	260	26	1,300	880	26	7,300	880	See (9)
3/25/96 (TW)	1,000	6,400	1,100	12,800	<3	NA	NA	NA	NA	NA	NA	NA	NA	NM
4/1/96	24	1,100	660	4,500	23	60	7	5	19	<5	<5	<5	<5	NM
6/21/96	10	52	710	1,750	<3	32	7	<5	<5	<5	<5	<5	<5	NM
10/8/96	3	66	980	2,010	<3	<5	<5	<5	<5	<5	<5	<5	<5	0.98
1/9/97	<1	290	1,000	3,100	<3	67	6	<5	<5	<5	<5	<5	<5	0.86
4/9/97	<1	130	1,100	3,800	<3	59	5	<5	<5	<5	<5	<5	<5	0.95
7/10/97	<1	45	53	744	<3	7	<5	<5	<5	<5	<5	<5	<5	1.22
10/8/97	<1	28	750	880	<3	32	5	<5	<5	<5	<5	<5	<5	0.41
1/6/98	<1	14	400	510	<3	8	<5	<5	<5	<5	<5	<5	<5	0.72
4/22/98	<1	23	580	670	<3	28	5	<5	<5	<5	<5	<5	<5	0.51

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TABLE 2 – Continued

ANALYTICAL SUMMARY – GROUND WATER
FORMER GASOLINE AND DIESEL UST SYSTEMS
CONSUMERS POWER COMPANY
KALAMAZOO SERVICE CENTER
Kalamazoo, Michigan
SME Project No. PE21914

Notes:
(1) Concentrations for BTEX, PNAs and dissolved lead are reported in parts per billion (ppb or ug/L).
(2) Concentrations for dissolved oxygen are reported in parts per million (ppm or mg/L).
(3) Shading indicates concentrations greater than Tier 1 Residential Criteria.
(4) FP = Measurable free product, greater than 1/8 inch, encountered in well.
(5) NA = Parameter not analyzed for sampling event.
(6) NS = Monitoring well not sampled for sampling event.
(7) NM = Parameter not measured in field for sampling event.
(8) (TW) = Groundwater sample obtained from temporary well set in boring prior to well completion.
(9) Dissolved oxygen is a field measured parameter. A Tier 1 residential criterion is not applicable.

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ATTACHMENT C
ANALYTICAL REPORT

CONSUMERS ENERGY Memorandum

To: AMAurino, Owosso

From: HWVoigt, T-260

Date: May 04, 1998

Subject: KALAMAZOO SERVICE CENTER
- Monitor Well Samples
- Sampling Of April 22, 1998
- SME #PE21914

CC: RGNeumann, P-22-520

File Index No.
519817-310-704

CC: Pat Barrese
Soil & Materials Engineers, Inc.
43980 Plymouth Oaks Blvd.
Plymouth, MI 48170-9337

On April 23, 1998 the Chemistry Section (CHEM) of Technical Services received monitor well groundwater samples collected at the KALAMAZOO SERVICE CENTER by Soil & Materials Engineers, Inc. (SME).

The groundwater samples were returned to CHEM for the determination of:

Aromatic Volatile Organics (BTEX)
Polynuclear Aromatic Hydrocarbons (PAHs)
Dissolved Lead

Analytical results are attached for your review.

K00004644

ANALYTICAL METHODS

Sample Handling - Sample collection and handling was conducted in accordance with SW-846 recommendations. All samples were returned to the Chemistry Section (CHEM) of Technical Services for analysis.

Aromatic Volatile Organics (BTEX) - Method 8021A, Halogenated And Aromatic Volatiles By Gas Chromatography Using Electrolytic Conductivity And Photoionization Detectors In Series: Capillary Technique. SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA.

Polynuclear Aromatic Hydrocarbons (PAHs) - Method 8270A, Gas Chromatography / Mass Spectrometry For Semivolatile Orgaincs: Capillary Column Technique. SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA.

Metal Analytes:

SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA.

Analyte	Method
Lead	7421

ABLE A1. ANALYTICAL RESULTS

CONSUMERS ENERGY

Chemistry Section – Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER – PE21914 – Sampling Date Of April 22, 1998	Project Number CHEM-98-0704

Sample Identification	MW-404S GW	MW-406 GW	RW-1 GW	RW-2 GW	Trip Blank GW	
Sample Depth, ft	–	–	–	–	–	
Sample Type	water	water	water	water	water	
Sample Date	04-22-98	04-22-98	04-22-98	04-22-98	04-17-98	
Received Date	04-23-98	04-23-98	04-23-98	04-23-98	04-23-98	
Report Date	05-04-98	05-04-98	05-04-98	05-04-98	05-04-98	
Percent Solids, %w/w	–	–	–	–	–	
Extraction Date	–	–	–	–	–	
Analysis Date	04-28-98	04-28-98	04-28-98	04-28-98	04-28-98	
Control Number	980704-01	980704-02	980704-03	980704-04	980704-05	
BTEX, ug/L – 8021A						TMDL
Benzene	1	nd	nd	nd	nd	1
Toluene	4	23	1	260	nd	1
Ethylbenzene	1	580	7	350	nd	1
m/p-Xylene	20	250	10	2,200	nd	1
o-Xylene	17	420	5	1,800	nd	1
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	Criteria
4-Bromofluorobenzene	93	92	94	masked out	84	80-120

NOTES: TMDL = Target Method Detection Limit, ug/L (parts-per-billion)
nd = Parameter Not Detected At TMDL

Reviewed By [signature] Date 050498 Data File 980704

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TABLE B1. ANALYTICAL RESULTS

CONSUMERS ENERGY

Chemistry Section - Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - PE21914 - Sampling Date Of April 22, 1998					Project Number CHEM-98-0704
Sample Identification	MW-404S GW	MW-406 GW	RW-1 GW	RW-2 GW		
Sample Depth, ft	-	-	-	-		
Sample Type	water	water	water	water		
Sample Date	04-22-98	04-22-98	04-22-98	04-22-98		
Received Date	04-23-98	04-23-98	04-23-98	04-23-98		
Report Date	05-04-98	05-04-98	05-04-98	05-04-98		
Percent Solids, %w/w	-	-	-	-		
Extraction Date	04-28-98	04-28-98	04-28-98	04-28-98		
Analysis Date	04-30-98	04-30-98	04-30-98	04-30-98		
Control Number	980704-01	980704-02	980704-03	980704-04		
PAH, ug/L - 8270A						TMDL
Naphthalene	nd	28	nd	160		5
2-Methylnaphtalene	nd	5	nd	29		5
Acenaphthylene	nd	nd	nd	nd		5
Acenaphthene	nd	nd	nd	nd		5
Fluorene	nd	nd	nd	nd		5
Phenanthrene	nd	nd	nd	nd		5
Anthracene	nd	nd	nd	5		5
Fluoranthene	nd	nd	nd	nd		5
Pyrene	nd	nd	nd	nd		5
Benzo(a)anthracene	nd	nd	nd	nd		5
Chrysene	nd	nd	nd	nd		5
Benzo(b)fluoranthene	nd	nd	nd	nd		5
Benzo(k)fluoranthene	nd	nd	nd	nd		5
Benzo(a)pyrene	nd	nd	nd	nd		5
Indeno(1,2,3-cd)pyrene	nd	nd	nd	nd		5
Dibenzo(a,h)anthracene	nd	nd	nd	nd		5
Benzo(g,h,i)perylene	nd	nd	nd	nd		5
Surrogate Recovery	% Recovery	% Recovery	% Recovery	% Recovery		Criteria
Nitrobenzene-d5	85	83	84	81		35-114
2-Fluorobiphenyl	90	87	91	86		43-116
Terphenyl-d14	103	98	104	101		33-141

NOTES: TMDL = Target Method Detection Limit, ug/L (parts-per-billion)
nd = Parameter Not Detected At TMDL

K00004647

Reviewed By HW Date 050498 Data File 980704

TABLE C1. ANALYTICAL RESULTS

CONSUMERS ENERGY

Chemistry Section – Technical Services Department

LOCATION	KALAMAZOO SERVICE CENTER - PE21914 - Sampling Date Of April 22, 1998				Project Number CHEM-98-0704	
Sample Identification	MW-404S GW	MW-406 GW	RW-1 GW	RW-2 GW		
Sample Depth, ft	–	–	–	–		
Sample Type	water	water	water	water		
Sample Date	04-22-98	04-22-98	04-22-98	04-22-98		
Received Date	04-23-98	04-23-98	04-23-98	04-23-98		
Report Date	05-04-98	05-04-98	05-04-98	05-04-98		
Percent Solids, %w/w	–	–	–	–		
Preparation Date	–	–	–	–		
Analysis Date	04-28-98	04-28-98	04-28-98	04-28-98		
Control Number	980704-01	980704-02	980704-03	980704-04		
DISSOLVED METALS, ug/L						**TMDL**
Lead - 7421	4	nd	nd	13		3

NOTES: TMDL = Target Method Detection Limit, ug/L (parts-per-billion)
nd = Parameter Not Detected At TMDL

K00004648

Reviewed By [illegible] Date 050498 Data File 980704

CHAIN OF CUSTODY

CONSUMERS POWER COMPANY – ENVIRONMENTAL AND TECHNICAL SERVICES
LABORATORY COMMERCIAL SERVICES

135 WEST TRAIL ST., JACKSON, MI 49201 • (517) 788-1251 • FAX (517) 788-1104

SAMPLING SITE: CPCo Kalamazoo Service Center

PROJECT NUMBER: PE21914

SAMPLING TEAM: M. Joel R Burtram – SME

DATE SHIPPED:

SITE SKETCH ATTACHED? CIRCLE ONE: YES NO

PAGE 1 OF 1

SEND REPORT TO: PAT BARESE SME PLYMOUTH

PHONE 313-454-9900

CPCO CONTROL #	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	SAMPLE DESCRIPTION / LOCATION	DEPTH	# OF CONTAINERS	BTEX	PNA	D. SOLVED LEAD					REMARKS
J704-1	4-22-98	1200	GW	MW-404s		4	X	X	X					
-2	4-22-98	1330	GW	MW-406		4	X	X	X					
-3	4-22-98	1300	GW	RW-1		4	X	X	X					
-4	4-22-98	1405	GW	RW-2		4	X	X	X					
-5				TRIP BLANK										

RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)
[signature]	4/22/98 3:45pm	[signature]
[signature]	4-23-98 9:55AM	[signature]

RELINQUISHED BY: (SIGNATURE) DATE / TIME RECEIVED BY: (SIGNATURE)

COMMENTS

K00004649

ORIGINAL TO LAB COPY TO CUSTOMER

EXHIBIT 6

9-22-98

UST CLOSURE REPORT
KALAMAZOO SERVICE CENTER
GASOLINE/DIESEL

K00004650

Consumers Energy

A CMS Energy Company

Environmental & Technical
Services Department
1945 West Parnall Road
Jackson, MI 49201-8643

Tel: 517 788 1930
Fax: 517 788 2329

September 22, 1998

Debra Clark
Storage Tank Division
Michigan Department of Environmental Quality
Plainwell District Office
1342 SR-89, Suite B
Plainwell, MI 49080-1915

7SM905.9.7

UST CLOSURE REPORT
KALAMAZOO SERVICE CENTER
2500 EAST CORK, KALAMAZOO, KALAMAZOO COUNTY
FACILITY ID 0-017371

Consumers Energy Company has reviewed the enclosed "Closure Report" and concur with the submittal. The report was prepared by our UST site consultant, Soil and Materials Engineers Inc (SME). The report summarizes the corrective action activities and results of groundwater monitoring related to UST releases at our Kalamazoo Service Center.

Groundwater analytical results over the past couple of years have indicated continued decreases in the concentrations of petroleum constituents in the groundwater, indicating appropriate cleanup of the groundwater has been achieved below site specific Tier 2 concentrations.

If there are any questions, please do not hesitate to contact me on 517-788-0350, or SME on 734-454-9900.

Robert G Neumann PE
UST Compliance Engineer

cc AMAurino, Owosso
MEStevens, Bay City
DAHaueisen, Kalamazoo
AFGoodman, M-1041
RBEldridge, Lansing
LABaker, P-11-212

K00004651

00698-17.RGN

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION

LEAKING UNDERGROUND STORAGE TANK CLOSURE REPORT

INSTRUCTIONS: COMPLETION OF THIS REPORT WITH ALL APPLICABLE INFORMATION IS MANDATORY. The Certified Underground Storage Tank Professional (CP) MUST sign below. Failure to submit this report within the stated time period may result in Administrative Penalties as provided for in Part 213, Section 21313a of Act 451, P.A. 1994 as amended.

FACILITY NAME: Consumers Energy Company - Kalamazoo Service Center | FACILITY ID NUMBER: 0-017371

ADDRESS: 2500 East Cork Street | CONFIRMED RELEASE NUMBER(S): C1243-94 (diesel UST), C1255-95 (gas UST)

CITY: Kalamazoo ZIP: 49001 COUNTY: Kalamazoo

O/O NAME: Consumers Energy Company | DATE(S) RELEASE DISCOVERED:

O/O ADDRESS: 1945 West Parnall Road | STATE: Michigan | ZIP: 49201

CONTACT PERSON: Mr. Robert G. Neumann | PHONE NUMBER: (517)788-0350

ANSWER ALL QUESTIONS, (DO NOT LEAVE BLANKS):

1. a. Has the UST been emptied? X Yes ___ No (If no, explain why):
   b. Has the UST system been properly closed? X Yes ___ No (If no, explain why):
2. Free product present: a. Currently? ___ YES X NO If YES, total gallons recovered since last report:
   b. Previously? X YES ___ NO If YES, total gallons recovered to date: RW1=53, RW2=0.12-0.15
3. Have vapors been identified in any confined spaces (basement, sewers, etc.)? ___ YES X NO
4. State the number of homes where drinking water is or was affected as a result of a release from this facility: None
5. Estimated distance and direction from point of release to nearest:
   a. Private well: approx. 1 mile northeast b. Municipal well: approx. 2.3 miles northwest c. Surface water/wetland: approx. 625 feet east
6. Since last report: a. cubic yards of soil remediated: 0 b. gallons of groundwater remediated: 0
7. Totals to date: a. cubic yards of soil remediated: 280 b. gallons of groundwater remediated: 0
8. Michigan RBCA Site Classification (1-4): 4 Previous RBCA Site Classification (1-4): 4
9. Has contamination migrated off-site above Tier 1 Residential RBSLs ___ YES X NO
   If YES, have off-site impacted parties been notified ___ YES ___ NO (per Section 21309a(3) of Part 213)
10. Is an institutional control required for contamination that has migrated or will migrate off-site? ___ Yes X No

CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate and complete. I certify that it was submitted to the USTD on 9-22-98.
date submitted **(REQUIRED)**

CA Kehres-Dietrich
CP Original Signature - **(REQUIRED)** Date

Patrick G. Barrese, CPG
PRINT QC Project Manager's Name

Cheryl A. Kehres-Dietrich, CGWP
PRINT CP's Name

Soil and Materials Engineers Inc.
CONSULTANT

43980 Plymouth Oaks Blvd./Plymouth, MI/48170
ADDRESS

(734) 454-9900 TELEPHONE NO. (734) 454-0629 FAX NO.

CERTIFICATION OF CLOSURE

1. Type of RBCA Evaluation: ___ Tier 1 X Tier 2 ___ Tier 3
2. Closure report based on which type of land use?: ___ Residential ___ Commercial III ___ Commercial IV X Industrial
3. Institutional Controls: None Notice of Corrective Action X Restrictive Covenant Other

I certify under penalty of law that corrective actions associated with the above referenced release at this facility were completed in accordance with Part 213, Act 451, P.A. 1994 as amended, and current departmental guidance and procedures available at the time the work was completed.

I further certify that 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 directly responsible for gathering the information, the information submitted is, to 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 or imprisonment for knowing violations.

CA Kehres-Dietrich 9-22-98
CP Signature - **(REQUIRED)** Date

PLEASE RETURN THIS COMPLETED REPORT AND ASSOCIATED ATTACHMENTS TO THE APPROPRIATE USTD DISTRICT OFFICE, LISTED ON THE BACK OF THIS PAGE.

K00004652

CLOSURE REPORT

CONSUMERS ENERGY COMPANY
KALAMAZOO SERVICE CENTER
KALAMAZOO, MICHIGAN

SEPTEMBER 22, 1998

Consultants in the geosciences, materials and the environment

- *Caissons/Piles*
- *Corrosion*
- *Dewatering*
- *Earth Retention Systems*
- *Forensic Engineering*
- *Foundation Engineering*
- *Geodynamics/Vibrations*
- *Geophysical Surveys*
- *Geotextiles*
- *Ground Modification*
- *In-situ Testing*
- *Slope Stability*
- *Building Restoration*
- *Coatings*
- *Concrete*
- *Construction Quality Control*
- *Facility Management*
- *Masonry/Stone*
- *Metals*
- *Pavements*
- *Roofs*
- *Sealants*
- *Structural Steel*
- *Waterproofing*
- *Air Quality*
- *Asbestos/Lead Abatement*
- *Compliance Audits*
- *Contamination-Remediation*
- *Environmental Site Assessments*
- *Hydrogeologic Studies*
- *RCRA Compliance*
- *Risk Assessment*
- *Storm Water Discharge*
- *Underground Storage Tanks*
- *Waste Minimization*
- *Wetlands*

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UNDERGROUND STORAGE TANK DIVISION OFFICES AND LOCATIONS

Detemine in which county/city the UST is located. Return all completed forms and associated reports to the USTD office listed next to that county/city in the following table. Addresses for the USTD offices are listed below.

COUNTY	USTD OFFICE	COUNTY	USTD OFFICE	COUNTY	USTD OFFICE	COUNTY	USTD OFFICE
Alcona	Gaylord	Dickinson	Marquette	Lake	Cadillac	Oceana	Grand Rapids
Alger	Marquette	Eaton	Shiawassee	Lapeer	Shiawassee	Ogemaw	Gaylord
Allegan	Plainwell	Emmet	Gaylord	Leelanau	Cadillac	Ontonagon	Marquette
Alpena	Gaylord	Genesee	Shiawassee	Lenawee	Jackson	Osceola	Cadillac
Antrim	Gaylord	Gladwin	Gaylord	Livingston	Shiawassee	Oscoda	Gaylord
Arenac	Gaylord	Gogebic	Marquette	Luce	Marquette	Otsego	Gaylord
Baraga	Marquette	Grand Traverse	Cadillac	Mackinac	Marquette	Ottawa	Grand Rapids
Barry	Plainwell	Gratiot	Shiawassee	Macomb	SE Michigan	Presque Isle	Gaylord
Bay	Saginaw-Bay	Hillsdale	Jackson	Manistee	Cadillac	Roscommon	Gaylord
Benzie	Cadillac	Houghton	Marquette	Marquette	Marquette	Saginaw	Saginaw-Bay
Berrien	Plainwell	Huron	Saginaw-Bay	Mason	Cadillac	Sanilac	Saginaw-Bay
Branch	Jackson	Ingham	Shiawassee	Mecosta	Grand Rapids	Schoolcraft	Marquette
Calhoun	Jackson	Ionia	Grand Rapids	Menominee	Marquette	Shiawassee	Shiawassee
Cass	Plainwell	Iosco	Gaylord	Midland	Saginaw-Bay	St Clair	SE Michigan
Charlevoix	Gaylord	Iron	Marquette	Missaukee	Cadillac	St Joseph	Plainwell
Cheboygan	Gaylord	Isabella	Saginaw-Bay	Monroe	SE Michigan	Tuscola	Saginaw-Bay
Chippewa	Marquette	Jackson	Jackson	Montcalm	Grand Rapids	Van Buren	Plainwell
Clare	Gaylord	Kalamazoo	Plainwell	Montmorency	Gaylord	Washtenaw	Jackson
Clinton	Shiawassee	Kalkaska	Cadillac	Muskegon	Grand Rapids	Wayne	SE Michigan
Crawford	Gaylord	Kent	Grand Rapids	Newaygo	Grand Rapids	Wexford	Cadillac
Delta	Marquette	Keweenaw	Marquette	Oakland	SE Michigan		
CITY	USTD OFFICE	CITY	USTD OFFICE	CITY	USTD OFFICE		
Detroit	Detroit	Highland Park	Detroit	Hamtramck	Detroit		

CADILLAC OFFICE 120 W CHAPIN ST CADILLAC MI 49601-2158 616-775-3960 (PHONE) 616-775-1511 (FAX)	**DETROIT OFFICE** 300 RIVERPLACE, SUITE 3600 DETROIT MI 48207 313-392-6480 (PHONE) 313-392-6488 (FAX)	**PLAINWELL OFFICE** 1342 SR-89 WEST, SUITE B PLAINWELL MI 49080-1915 616-692-2120 (PHONE) 616-692-3050 (FAX)
GAYLORD OFFICE 1732 W M-32, PO BOX 667 GAYLORD MI 49735-0667 517-731-4920 (PHONE) 517-731-6181 (FAX)	**JACKSON OFFICE** 301 E LOUIS GLICK HIGHWAY JACKSON MI 49201-1556 517-780-7690 (PHONE) 517-780-7855 (FAX)	**SAGINAW-BAY OFFICE** 503 N EUCLID AVE SUITE 1 BAY CITY MI 48706-2965 517-686-8025 (PHONE) 517-684-9799 (FAX)
GRAND RAPIDS OFFICE 350 OTTAWA ST NW 6TH FLOOR GRAND RAPIDS MI 49503-2341 616-456-5071 (PHONE) 616-456-1239 (FAX)	**MARQUETTE OFFICE** 1990 US 41 SOUTH MARQUETTE MI 49855-9198 906-228-6561 (PHONE) 906-228-5245 (FAX)	**SHIAWASSEE OFFICE** 10650 BENNETT DR MORRICE MI 48857-9792 517-625-5515 (PHONE) 517-625-5000 (FAX)
SE MICHIGAN OFFICE 38980 SEVEN MILE RD LIVONIA MI 48152-1006 313-953-8905 (PHONE) 313-432-1295 (FAX)	**HEADQUARTERS** 333 S CAPITOL AVE PO BOX 30157 LANSING MI 48909-7657 517-373-8168 (PHONE) 517-335-2245 (FAX)	

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Instructions - Utilize the following checklist to ensure that all required information is provided in the Closure Report Include this checklist as the table of contents. The order in which the information is provided is at your discretion Each page of the report (including the cover sheet, table of contents, appendices, figures, etc.) should be consecutively numbered. The location column should be completed with the appropriate page number for each item You may reference previously submitted materials by specifying the location within that document. Maps, tables, figures, etc should be combined as appropriate

All information required by Part 213 to be included in the Closure Report **must** *be provided, and all sections of the report must be* completed. If any items are not applicable to the site, provide a justification regarding the absence of this information in the appropriate section of the report.

If an Initial Assessment Report (IAR) and/or a Final Assessment Report (FAR) have not been submitted for this release, provide all required information from the IAR and/or FAR not included below.

Section	Table of Contents	Page

1.0 PROJECT CHRONOLOGY

A. Provide the date and time the confirmed release(s) was/were discovered and reported. 9

B. Provide the IAR submittal date. 9

C. Provide the FAR submittal date. 9

D. Provide dates for any other submittals. 9

2.0 SUMMARY OF CORRECTIVE ACTION ACTIVITIES PERFORMED

2.1 IMMEDIATE RESPONSE ACTION IMPLEMENTATION

If an IAR has not been previously submitted, provide all information requested in Section 1.0 of the IAR 10

2.2 FREE PRODUCT DISCOVERY AND REMOVAL

If free product has not been discovered, then proceed to Section 2.3.

A. Describe initial response actions performed at this site to address the presence of free product as specified in Sections 21307(2)(c) and (f), and (3)(b) and (c), 21308a(1)(b)(*xviii*). Refer to the USTD Operational Memorandum No. 7, *Identification, Reporting, and Recovery of Free Product at LUST Sites.* 11

B. Attach a final USTD Free Product Recovery Status Report (EQP 3850) if not previously submitted. Not Applicable

2.3 SITE ASSESSMENT ACTIVITIES

A. If an IAR has not been previously submitted, provide all information requested in Section 3.0 of the IAR. 12

B. If a FAR has not been previously submitted, provide all information requested in Section 2.0 of the FAR. 12

Section	Table of Contents	Page

2.4 SITE CLASSIFICATION

A. Indicate the current Site Classification Level, in accordance with USTD Operational Memorandum No. 5, *Leaking Underground Storage Tank (LUST) Site Classification System*, (Attachment 10 of the RBCA Guidance Document). 12

B. Provide a justification for this classification. Identify the current conditions that are the basis of the classification. 12

C. Indicate whether the site classification has changed since the submission of the last report. 12

2.5 TIERED EVALUATIONS AND CLEANUP GOALS

A. Indicate whether a site-specific Tier II or Tier III evaluation has been conducted for this site. 13

B. If applicable, identify and justify where alternate assumptions or site-specific information were used in place of the default assumptions as defined in the USTD Operational Memorandum No. 4, *Tier 1 Lookup Tables for Risk-Based Corrective Action at Leaking Underground Storage Tank (LUST) Sites*, (Attachment No. 11 of the RBCA Guidance Document). 13

NOTE: If a Tier II evaluation was performed and described in the IAR or the FAR, explicitly indicate where different assumptions or site-specific information were used in this Tier II or Tier III evaluation and why the change was justified.

C. Provide the calculations and reference citations supporting the development of the relevant Tier II or Tier III SSTLs. 14

D. Provide a table which compares the maximum remaining contaminant concentrations for each required parameter for all media to the appropriate RBSLs (as provided in the USTD Operational Memorandum No. 4), and/or the calculated SSTLs. Identify all applicable land use scenario(s). See Attachment B, Tables 2 and 3

2.6 MODELING

Provide all modeling documentation. Refer to the USTD Operational Memorandum No. 10 *Presentation of Tier 2 and 3 Groundwater Modeling Evaluations*. See Attachments C and D

2.7 NOTICES AND RESTRICTIONS

If the closure does not require the use of institutional controls to restrict land or resource use, then proceed to Section 2.8.

Section	Table of Contents	Page

NOTE: Draft copies of all Restrictive Covenants and Notices of Corrective Action for off-site institutional controls must be submitted to the USTD for approval prior to filing. Refer to Operational Memorandum No. 12, *Institutional Controls and Public Notice Requirements and Procedures*, (Attachment 20 of the RBCA Guidance Document).

A. Submit copies of all notices or restrictions which have been filed, and provide proof of filing these notices or restrictions. If the person filing is not the property owner, attach a copy of the written permission for the filing from the property owner.	See Attachments E and F
B. Identify the individuals or segments of the public which have been provided with notice of the proposed land use restrictions or limitations to be placed on resource use. Include the names and addresses of the affected parties (unless large segments of the public will be provided notice, e.g., users of a municipal water supply system). Include proof that notice was provided to the affected parties.	20, and See Attachments E and F
C. Provide a map depicting the location(s) of the individuals or segments of the noticed public.	See Attachments E and F
D. Describe any alternate mechanism utilized to restrict exposure to regulated substances as defined in Section 324.21310a(3), and justify how this mechanism reliably restricts exposure to the regulated substances.	Not Applicable

2.8 PERMITS

List all discharge permits and/or permit exemptions that were required for the corrective action, and include the type of permit, permit number, application date, approval date and termination date.	20

2.9 CORRECTIVE ACTION PLAN

A. Summarize the corrective action activities that resulted in release closure. Include the operating history of any active treatment systems.	20
B. Summarize the types of monitoring activities performed, including the media and parameters monitored.	20
C. Attach performance monitoring data.	Not Applicable
D. Describe and justify changes to the previously submitted Corrective Action Plan.	Not Applicable
E. Provide the total volume of soil remediated, and include disposal location and proof of disposal (e.g., invoices, not load tickets) for all soils excavated subsequent to submittal of the last report, if appropriate.	Not Applicable
F. Provide the total volume of groundwater actively remediated to date, and include disposal documentation, if appropriate.	Not Applicable

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3.0 CLOSURE VERIFICATION SAMPLING

3.1 SOIL CLOSURE VERIFICATION

NOTE: Verification sampling must be conducted whenever contaminated soils are identified but not remediated, including when contaminated soil is returned to an excavation after the removal of a UST.

A. Describe the soil verification sampling strategy applied at the site by providing the following:

1. A scaled site map which identifies the former extent of the soil contamination, and the soil verification sampling locations relative to existing site features. *(Multiple chemical contaminants and multiple sample depths should be addressed on the minimum number of site maps needed to convey the information with clarity and legibility)* — See Attachment 7 of FAR dated, 9/25/96
2. For a corrective action involving excavation, a scaled drawing(s) showing the floor and walls of the excavation and the associated sampling locations. The drawing should also depict the subsurface stratigraphy, soil types, fractures, discolored soil locations, adjoining conduits or potential migration pathways, and locations of former and existing UST system components, as appropriate — See Attachment 7 and 8 of FAR dated, 9/25/96
3. A description of how the number and location of samples collected for soil verification purposes was established. If your sampling strategy differs from the MDEQ guidance document *Verification of Soil Remediation Guidance Document* (Attachment No. 25 of the RBCA Guidance Document) and USTD Operational Memorandum No. 9, *Groundwater and Soil Closure Verification Guidance* (Attachment No. 26 of the RBCA Guidance Document) provide justification — 21
4. A list of the analytical parameters used to verify the soil remediation — 21
5. A justification if all soil verification samples were not analyzed, preserved, and handled in accordance with the USTD guidance document entitled *Guidance for Parameters, Analytical Methods, Sample Handling, Quality Control, and Cleanup Limits for Petroleum Hydrocarbon Releases* (Attachment No. 12 of the RBCA Guidance Document) — Not Applicable

B. Provide a table with laboratory data showing the results of all verification soil sampling performed to date for the required parameters. Refer to Attachment 12 of the RBCA Guidance Document. The table should include the following: — See Appendices B and D of 150-Day Phase I Hydrogeological Study, dated, 3/17/95

1. Sample ID
2. Sample depth
3. Date of collection
4. Dates of extraction and analysis
5. Method Detection Limits
6. Analytical method

(NOTE: The USTD may request copies of the laboratory data sheets, chain-of-custody forms, and all available QA/QC information.)

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C. Provide copies of all soil boring logs not previously submitted. — Not Applicable

3.2 GROUNDWATER CLOSURE VERIFICATION

A. Describe the groundwater verification sampling strategy applied at the site by providing the following:

1. A scaled site map which identifies the former extent of groundwater contamination, the groundwater verification sampling locations relative to existing site features, and the groundwater flow direction(s). *(Multiple chemical contaminants and multiple aquifer/sample depths should be addressed on the minimum number of site maps needed to convey the information with clarity and legibility)* — See Attachment 16 of FAR dated 9/25/96
2. A description of how the sampling frequency and duration of sampling for groundwater verification purposes was established. If your sampling strategy differs from the USTD Operational Memorandum No. 9, (Attachment No. 26 of the RBCA Guidance Document) provide a justification — See Quarterly Groundwater Monitoring Reports
3. A list of the analytical parameters used to verify groundwater closure — 21
4. A justification if all groundwater verification samples were not analyzed, preserved, and handled in accordance with Attachment No. 12 of the RBCA Guidance Document — Not Applicable

B. Provide a table with laboratory data showing the results of all verification groundwater sampling performed to date for the required parameters. Refer to Attachment 12 of the RBCA Guidance Document. The table should include the following: — See Attachment B, Table 4

1. Sample ID
2. Sampling depth or screened interval
3. Date of collection
4. Dates of extraction and analysis
5. Method Detection Limits
6. Analytical method

(NOTE: The USTD may request copies of the laboratory data sheets, chain-of-custody forms, and all available QA/QC information.)

C. Attach copies of the following:

1. Boring logs not previously submitted — Not Applicable
2. Well construction diagrams not previously submitted — Not Applicable
3. Potentiometric surface maps for each groundwater verification sampling event — See Quarterly Groundwater Monitoring Reports
4. Elevation data (USGS datum preferred), including top-of-casing and grade elevations, and depth to groundwater for each groundwater verification sampling event. — See Quarterly Groundwater Monitoring Reports

3.3 CLOSURE VERIFICATION FOR OTHER MEDIA

A. Describe the verification sampling strategy for other media applied at the site. — Not Applicable

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B. Provide a scaled site map which identifies the verification sampling locations relative to existing site features and boundaries, if appropriate. Not Applicable

C. Provide a table with the laboratory data showing the results of all verification sampling performed to date in the other specified environmental media. Not Applicable

(NOTE: The USTD may request copies of the laboratory data sheets, chain-of-custody forms, and all available QA/QC information.)

1.0 PROJECT CHRONOLOGY

The subsurface impact evaluated by SME at Consumers Energy Company's Kalamazoo Service Center (site) was due to releases from a former 15,000-gallon gasoline underground storage tank (UST) system and a former 8,000-gallon diesel UST system. The confirmed release associated with the former 15,000-gallon gasoline UST system was discovered on October 19, 1994 at approximately 10:30 A.M. This confirmed release was subsequently reported to the Michigan State Police Fire Marshal on October 20, 1994 at 09:07 A.M. The confirmed release associated with the former 8,000-gallon diesel UST system was discovered in the afternoon of October 20, 1994. This confirmed release was subsequently reported to the State Police Fire Marshal on October 20, 1994 at 03:11 P.M.

A 90-Day Initial Assessment Report (IAR) was not submitted because the release dates, as well as much of the reporting activity, preceded the requirement for the submittal of a 90-Day IAR. A chronological list of the report submittals that have been made to the Michigan Department of Environmental Quality - Storage Tank Division (MDEQ-STD) by SME for assessment activities conducted to date at the site is presented below.

1.1 LUST Report Submittals

• 20-Day Initial Abatement Report		November 7, 1994
• 60-Day Initial Assessment Report	(Initial)	December 15, 1994
	(Revised)	January 12, 1995
• 20-Day Free Product Report		March 8, 1995
• 150-Day Phase I Hydrogeological Study		March 17, 1995
• Supplemental Hydrogeologic Investigation Report		July 26, 1995
• Final Assessment Report		September 25, 1996

1.2 Quarterly Groundwater Monitoring Report Submittals

The following quarterly groundwater monitoring reports were submitted prior to the preparation of the Corrective Action Plan as presented in the Final Assessment Report (FAR):

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- First Quarter Groundwater Monitoring Report February 9, 1996
- Second Quarter Groundwater Monitoring Report May 2, 1996

The following quarterly groundwater monitoring reports were submitted after the preparation of the Corrective Action Plan as presented in the Final Assessment Report (FAR):

- First Quarter Groundwater Monitoring Report November 13, 1996
- Second Quarter Groundwater Monitoring Report January 28, 1997
- Third Quarter Groundwater Monitoring Report May 13, 1997
- Fourth Quarter Groundwater Monitoring Report August 12, 1997
- Fifth Quarter Groundwater Monitoring Report November 10, 1997
- Sixth Quarter Groundwater Monitoring Report February 10, 1998
- Seventh Quarter Groundwater Monitoring Report May 8, 1998

1.3 Free Product Report Submittals

Free Product Recovery Status Reports associated with the recovery of free product from former monitoring well MW204 were submitted on March 22 and April 19, 1996.

Free Product Recovery Status Reports associated with the recovery of free product from former monitoring well MW401 were submitted on January 28, 1997; February 26, 1997; March 26, 1997; April 29, 1997; May 29, 1997; June 27, 1997 and July 29, 1997.

2.0 SUMMARY OF CORRECTIVE ACTION ACTIVITIES PERFORMED

2.1 Immediate Response Action Implementation

Though a 90-Day IAR was not submitted, the immediate response action(s) implemented for the UST releases at the site were documented in both the 20-Day Initial Abatement Report and 60-Day Initial Assessment Report.

2.2 Free Product Discovery and Removal

Free product was discovered at the site on two separate occasions and within two different groundwater units. Free product was initially discovered at the site on February 17, 1995 at former monitoring well MW204 during groundwater sampling activities. MW204 was screened in the lower groundwater unit at the site. Free product was then discovered on a second occasion at the site on January 9, 1997 at former monitoring well MW401 also during groundwater sampling activities. MW401 was screened in the upper groundwater unit at the site. Figure 1 of Attachment A shows the current and former locations of monitoring and recovery wells at the site. The initial response actions performed to address the presence of free product at each monitoring well are discussed below.

Former Monitoring Well MW204/Existing Recovery Well RW1

As previously stated, free product was first encountered at the site on February 17, 1995 during groundwater sampling of former monitoring well MW204. MW204 was screened in the lower groundwater unit over an interval of approximately 30 to 35 feet below grade (BG). The thickness of free product at the time of discovery was approximately 1 foot. The free product was identified as consisting of both gasoline and diesel fuel. The extent of free product impact appears to have been limited to the vicinity of MW204, given free product has not observed in MW201, MW202, MW301, MW303 and MW404D which are also screened within the lower groundwater unit. Recovery of free product was conducted by manual bailing on a monthly basis. On March 25, 1996, MW204 was replaced with recovery well RW1 by overdrilling in order to facilitate the operation of a proposed automated free product recovery system. The automated free product recovery system was never installed because to this date measurable free product, greater than one-eighth inch in thickness, has not been encountered at RW1, nor has measurable free product been encountered within other monitoring wells screened within the lower groundwater unit. A total of approximately 53 gallons of free product was recovered from former monitoring well MW204.

Former Monitoring Well MW401/Existing Recovery Well RW2

Free product was again encountered at the site within former monitoring well MW401 on January 9, 1997 during groundwater sampling. MW401 was screened in the upper groundwater unit over an interval of approximately 17 to 22 feet BG. The

thickness of free product at the time of discovery was approximately 0.4 feet. The free product was identified as consisting of both gasoline and diesel fuel. The extent of free product impact appears to have been limited to the vicinity of former monitoring well MW401, given free product has not been observed in MW404S and MW406 which are also screened within the upper groundwater unit. The extent of free product impact was further delineated because groundwater corresponding to the upper groundwater unit was not encountered during drilling at B1, B101, B103, B104, B203, B302, B304 and GP1. Figure 2 of Attachment A shows the former locations of soil borings at the site. Initially, recovery of free product had been conducted by manual bailing on a weekly basis through February, 1997. However, in March, 1997 an oil absorbent sock was installed within MW401. The oil absorbent sock was removed in April, 1997 and free product recovery was again conducted by manual bailing on a bi-weekly basis through July, 1997. On November 24, 1997, MW401 was replaced by overdrilling with recovery well RW2. Measurable free product has not been encountered in either former monitoring well M401 or RW2 since February, 1997. A total of approximately 0.1 to 0.2 gallons of free product was recovered from former monitoring well MW401.

2.3 Site Assessment Activities

As previously stated, a 90-Day IAR was not submitted by SME to the MDEQ-STD because the release dates were prior to the requirement for the submittal of 90-Day IAR. However, site characterization information consistent with the requirements of Section 3 of the 90-Day IAR have been previously presented to the MDEQ-STD in the following reports:

- 150-Day Phase I Hydrogeological Study March 17, 1995
- Supplemental Hydrogeologic Investigation Report July 26, 1995
- Second Quarter Groundwater Monitoring Report May 2, 1996

Also, as previously stated, the Final Assessment Report was submitted to the MDEQ-STD on September 25, 1996.

2.4 Site Classification

The current Site Classification Level for the site is 4 because the identified residual hydrocarbon impact to the subsurface is not believed to represent a

demonstrable long-term threat to human health, safety or sensitive environmental receptors.

The current classification is based on the following:

1. residual hydrocarbon impact to soil is either less than the relevant Tier I Risk-Based Screening Levels (RBSLs) or it has been demonstrated that the residual hydrocarbon impact to soil will not leach to a groundwater bearing unit at concentrations exceeding relevant Tier I RBSLs;

2. the upper groundwater unit does not appear to be representative of a potable aquifer;

3. concentrations of benzene, toluene, ethylbenzene and xylene(s) (BTEX); polynuclear aromatic hydrocarbons (PNAs) and lead for monitoring wells screened in the lower groundwater unit are less than Tier I Residential and Commercial I Drinking RBSLs and have been for the last 5 quarters of groundwater monitoring; and,

4. residual hydrocarbon impact to groundwater is limited and will not migrate off-site because the impacted groundwater unit,i.e. the upper groundwater unit, is not indicated to be continuous between the source area and the downgradient property line.

2.5 Tiered Evaluations and Cleanup Goals

The following constituents of concern (COC) have been identified within the subsurface at concentrations exceeding relevant Tier I RBSLs:

Soil: benzo(a)pyrene.

Groundwater: ethylbenzene, xylene(s) and lead.

A Tier I evaluation for benzo(a)pyrene was performed using Tier I RBSLs for commercial and industrial land-use. A Tier II Risk-Based Corrective Action (RBCA) evaluation for ethylbenzene and xylene(s) impact to groundwater was performed to establish alternate cleanup criteria, i.e. Tier II Site-Specific Target Levels (SSTLs). Lead impact to groundwater was evaluated using an analytical model referenced from the ASTM RBCA standard to demonstrate that current concentrations of dissolved lead in groundwater are not expected to migrate beyond the downgradient property line at concentrations exceeding relevant Tier I RBSLs. The tiered evaluations for the COCs are presented below.

2.5.1 Soil

For UST excavation soil sample S32, collected as a grab sample from a depth of 13 feet BG, benzo(a)pyrene was detected at a concentration of 2,700 ppb. A Tier I Residential and Commercial I Drinking Water RBSL has not been established for this COC because it is not expected to leach to groundwater under most soil conditions. However, this sample was submitted for laboratory analysis of polynuclear aromatic hydrocarbons (PNAs) by the Synthetic Precipitation Leaching Procedure (SPLP). The SPLP result for benzo(a)pyrene was less than the method detection limit (MDL) of 5 ppb. Tier I Residential RBSLs for both indoor and ambient soil vapor inhalation also have not been established for this COC because the constituent is not likely to volatilize under most conditions. The indicated benzo(a)pyrene concentration for S32 exceeds the Tier I Residential and Commercial I Direct Contact RBSL of 1,400 ppb, but is less than the Tier I Industrial and Commercial II, Commercial III and Commercial IV Direct Contact RBSLs of 21,000 ppb, 29,000 ppb and 68,000 ppb, respectively. The indicated benzo(a)pyrene concentration for S32 is also less than the Tier I Residential and Commercial I Particulate Soil Inhalation RBSL of 1,500,000 ppb.

Since both leaching to groundwater and volatilization to the atmosphere have been demonstrated not to be relevant transport mechanisms, the only potential exposure route would be by direct contact resulting from excavation activities. However, this possible exposure route is also not considered to be relevant because:

1. the depth of S32 at 13 feet BG, is below depths usually associated with the installation of utilities and/or the installation of building foundations (assuming no basement); and,

2. the indicated concentration of benzo(a)pyrene for S32 is less than the Tier I Industrial and Commercial II, III and IV Direct Contact RBSLs.

This tiered evaluation indicates the concentration of benzo(a)pyrene in soil is less than Tier I Industrial and Commercial II, III and IV Direct Contact RBSLs. Given direct contact with the impacted soil is unlikely, the remaining impact does not appear to represent a threat to human health or the environment at its present location.

2.5.2 Groundwater

Ethylbenzene and Xylene(s)

For the last quarterly groundwater monitoring event conducted in April, 1998 the maximum ethylbenzene and xylene(s) concentrations at the site were 580 ppb and 4,000 ppb, respectively. The ethylbenzene and xylene(s) concentrations exceed their respective Tier I Residential and Commercial I Drinking Water RBSLs of 74 ppb and 280 ppb, respectively. However, the ethylbenzene and xylene(s) concentrations are less than their respective Tier I Residential and Commercial I Groundwater to Indoor Air Inhalation RBSL.

As previously stated, a Tier II RBCA evaluation was conducted to establish alternate cleanup criteria, i.e. Tier II SSTLs for ethylbenzene and xylene(s). The following discussion is intended to provide documentation of the Tier II RBCA evaluation. This documentation consists of the following:

1. Presentation of identified transport mechanisms, exposure pathways and receptors.

2. Presentation of Tier II evaluation.

3. Results of Tier II evaluation.

The identified potential transport mechanisms are volatilization to outdoor air and groundwater transport. The basis for choosing volatilization as a transport mechanism was because the residual impact consists of volatile organic compounds (ethylbenzene and xylene(s)), and therefore there is a potential that concentrations of these COCs could volatilize to the ground surface at levels that could present a chronic threat to human health. The basis for choosing groundwater transport was because the observed concentrations of the COCs in groundwater exceed the relevant Tier I RBSLs and therefore potential downgradient migration needs to be evaluated.

The identified potential exposure routes are inhalation of volatiles and off-site ingestion of groundwater.

The identified potential receptors are Consumers Energy personnel because they work at the site on 8-hour day schedules and could be exposed to vapors which may migrate to the ground surface. Though off-site ingestion of groundwater is being evaluated, actual ingestion of groundwater by receptor(s) located off-site and downgradient of the source area are not considered to be relevant because:

1. it has been demonstrated that the impacted groundwater unit is not continuous in the downgradient direction; and

2. no groundwater wells, for either potable or non-potable use, were located within approximately 0.25 miles of site in the downgradient direction based on a review of Kalamazoo County Department of Public Health files.

The SSTLs were developed using the Tier II RBCA model, Michigan Risk-Based Corrective Action Spreadsheet System, Version 1.0, developed by Groundwater Services, Inc. of Houston, Texas.

Input parameters for the Tier II RBCA model consisted of the following:

I. Groundwater Exposure Pathways:

A. Groundwater Ingestion:

Onsite: None
Rationale: The impacted groundwater unit on-site is not used and reportedly will not be used in the future as a drinking water source.

Off-site: Residential
Rationale: Though it has been demonstrated that the upper groundwater unit is discontinuous and does not extend in the downgradient direction, potential off-site ingestion of groundwater was evaluated as a conservative assumption.

Distance to Off-site Receptor: 385 feet.
Basis: Approximate distance from source area to downgradient property line.

II. Air Pathways:

A. Volatilization from Groundwater to Enclosed Space

B. Volatilization from Groundwater to Ambient Air

For A. and B. the following were considered for the Tier II model:

Onsite: Commercial
Rationale: Ethylbenzene and xylene(s) impact to groundwater exceeding Tier I RBSLs.

Off-site: Not Applicable

III. Exposure Factors: Model default Parameters as established by ASTM E 1739 - 95 were used.

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IV. Target Risk Levels: A target risk level of 1.0×10^{-5} was used for the Tier II evaluation in order to be consistent with the "Target Excess Cancer Risk" specified in the MDEQ-USTD "Operational Memorandum No. 4," dated July 10, 1995.

The Michigan Health-based groundwater exposure limits for ethylbenzene and xylene(s) were activated.

V. COC Concentrations:

Groundwater:

Ethylbenzene: 580 ppb
Xylene(s): 4,000 ppb

Basis: The current maximum concentrations at the site based on analytical results for the April, 1998 quarterly groundwater monitoring event. These concentrations are believed to be representative of the levels of the COCs which occur in the upper groundwater unit since the average maximum concentrations for ethylbenzene and xylene(s) at the site over the last 4 quarterly groundwater monitoring events have been 560 ppb and 4,700 ppb, respectively.

VI. Soil Parameters

Vadose Zone Thickness: 16 feet
Basis: Boring log and water level data.

Capillary Zone Thickness: 1 foot
Basis: Boring log and water level data.

Depth to Groundwater: 17 feet.
Basis: Boring log and water level data.

Porosity: 0.25
Basis: Recommended input per MDEQ-USTD Operational Memorandum No. 10, November 4, 1997.

VII. Groundwater Parameters

Hydraulic Conductivity: 0.04 cm/s
Basis: The calculated hydraulic conductivity value based on slug test results for MW406 was 0.004 cm/s. However, since slug test data can potentially underestimate hydraulic conductivity values, the hydraulic conductivity value from the slug test was increased by an order of magnitude as a conservative assumption.

Groundwater Plume Width:	30 feet
Basis:	Estimated plume width perpendicular to groundwater flow based on analytical results from site monitoring wells.
Groundwater Plume Thickness:	5 feet
Basis:	Saturated thickness of impacted groundwater unit.

VIII. Natural Attenuation Factor Calculation

First Order Decay - Domenico Equation

Basis: This option allows the incorporation of a bioattenuation of the COCs in conjunction with mechanical dispersion. The consideration of bioattenuation is believed to be reasonable.

The results of the Tier II RBCA evaluation suggest that based on the current maximum concentrations, ethylbenzene and xylene(s) will not migrate to the downgradient property line at concentrations exceeding Tier I RBSLs. The calculated Tier II SSTLs for ethylbenzene and xylene(s) were 56,000 ppb and 97,000 ppb, respectively. Table 1 of Attachment B lists the relevant Tier I RBSLs and calculated Tier II SSTLs for ethylbenzene and xylene(s). This tiered evaluation indicates the current ethylbenzene and xylene(s) impact to the upper groundwater unit is not a threat to human health or the environment given the current site use. A copy of the model documentation is presented in Attachment C.

Lead

For the last quarterly groundwater monitoring event conducted in April, 1998 the maximum lead concentration at the site was 13 ppb which exceeds the Tier I Residential and Commercial I Drinking Water RBSL of 4 ppb. Tier I Residential and Commercial I RBSLs for indoor inhalation have not been established for lead because the constituent is not volatile.

As previously stated, an evaluation was conducted to determine if their was a potential for dissolved lead to migrate from the source area to the downgradient property line at a concentration exceeding the Tier I RBSL. The Michigan Risk-Based Corrective Action Spreadsheet System, Version 1.0, software could not be used for this evaluation because lead is not included as a possible COC. Therefore, an alternate analytical model was used to estimate the downgradient concentration of dissolved lead. The analytical model employed a steady-state attenuation equation referenced from Table X3.1 of the "Standard Guide for Risk-Based Corrective Action Applied at

Petroleum Release Sites," E 1739-95. The equation, which assumes an infinitely extending, homogenous and isotropic groundwater bearing unit, is presented below:

$$C(x)/C_{source} = \exp\left(x/2\alpha_x\left(1-(1+4\lambda\alpha_x/u)^{1/2}\right)\right)\left(\mathrm{erf}(S_w/4(\alpha_y x)^{1/2})\right)\left(\mathrm{erf}(S_d/4(\alpha_z x)^{1/2})\right)$$

where the parameters are as follows:

$C(x)$ = dissolved concentration along center line of plume at point downgradient.
C_{source} = dissolved concentration in dissolved plume source area.
x = distance along centerline from downgradient edge of dissolved plume source zone.
α_x = longitudinal dispersivity.
α_y = transverse dispersivity.
α_z = vertical dispersivity.
λ = first-order degradation constant.
S_w = source width (perpendicular to flow in the horizontal plane)
S_d = source width (perpendicular to flow in the vertical plane)
u = specific discharge = $((KI/\theta))$.
K = hydraulic conductivity.
I = groundwater gradient.
θ = porosity.

Input parameters were consistent with those used for the Tier II RBCA model used to evaluate ethylbenzene and xylene(s). Since biodegradation of lead is not expected to occur with time, an assumed minimal value was used for the first-order degradation constant. A copy of the input parameters with results is presented in Attachment D.

The results of the steady-state equation model indicate the expected lead concentration at the downgradient property line would be less than 1 ppb which is less than the Tier I RBSL of 4 ppb. Since it has been demonstrated that the impacted groundwater unit does not extend to the downgradient property line, the results of this evaluation suggest that the current lead impact to the upper groundwater unit does not represent a threat to human health or the environment given the current site use.

2.6 Modeling

A copy of the Tier II RBCA modeling documentation used to evaluate ethylbenzene and xylene(s) impact to groundwater is presented in Attachment C; while

a copy of the steady-state analytical model used to evaluate lead impact to groundwater with input parameters and results is presented in Attachment D.

2.7 Notices and Restrictions

For this closure the following was completed:

1. the recording of a restrictive covenant for the affected area at the site; and,

2. the submittal of "Notice to Local Unit(s) of Government of Land Use Restrictions" (LUG) forms with copies of the recorded restrictive covenant to the offices of the City Clerk for the City of Kalamazoo and Environmental Health for the County of Kalamazoo.

Representatives of Consumers Energy Company, the City Clerk's office for the City of Kalamazoo and the Environmental Health Office for the County of Kalamazoo have been provided with the land-use and resource-use restrictions that have been implemented for the affected area at the site. A copy of the recorded restrictive covenant with a scaled site diagram showing the affected area is presented in Attachment E. A copy of the LUG with proofs of receipt is presented in Attachment F.

2.8 Permits

No permits are required to implement the closure at the site.

2.9 Corrective Action Plan

Corrective action activities at the site have consisted of quarterly groundwater monitoring to confirm that free product is no longer present and demonstrate that dissolved phase concentrations of BTEX, PNAs and lead are decreasing with time and/or have stabilized. The implemented corrective action was consistent with the selected corrective action described in Section 6. of the Final Assessment Report. The groundwater monitoring parameters have been BTEX, PNAs and dissolved lead. Monitoring data has been presented with quarterly monitoring reports submitted to the MDEQ-STD. See Section 1.2 for a listing of the quarterly report submittals that have been made to the MDEQ-STD.

3.0 CLOSURE VERIFICATION SAMPLING

3.1 Soil Closure Verification

Information consistent with that required under Section 3.1 was previously presented to the MDEQ-STD in the following reports:

- 150-Day Phase I Hydrogeological Study — March 17, 1995
- Supplemental Hydrogeologic Investigation Report — July 26, 1995
- Final Assessment Report — September 25, 1996

The number and location of verification soil samples were collected in accordance with the MDEQ guidance document Verification of Soil Remediation Guidance Document. Verification soil samples were submitted for laboratory analysis of BTEX, PNAs and/or lead. BTEX, PNA and/or lead concentrations for soil samples collected from the former UST systems excavations, as well as former soil borings were either less than the MDL or less than the Tier I Industrial RBSLs.

3.2 Groundwater Closure Verification

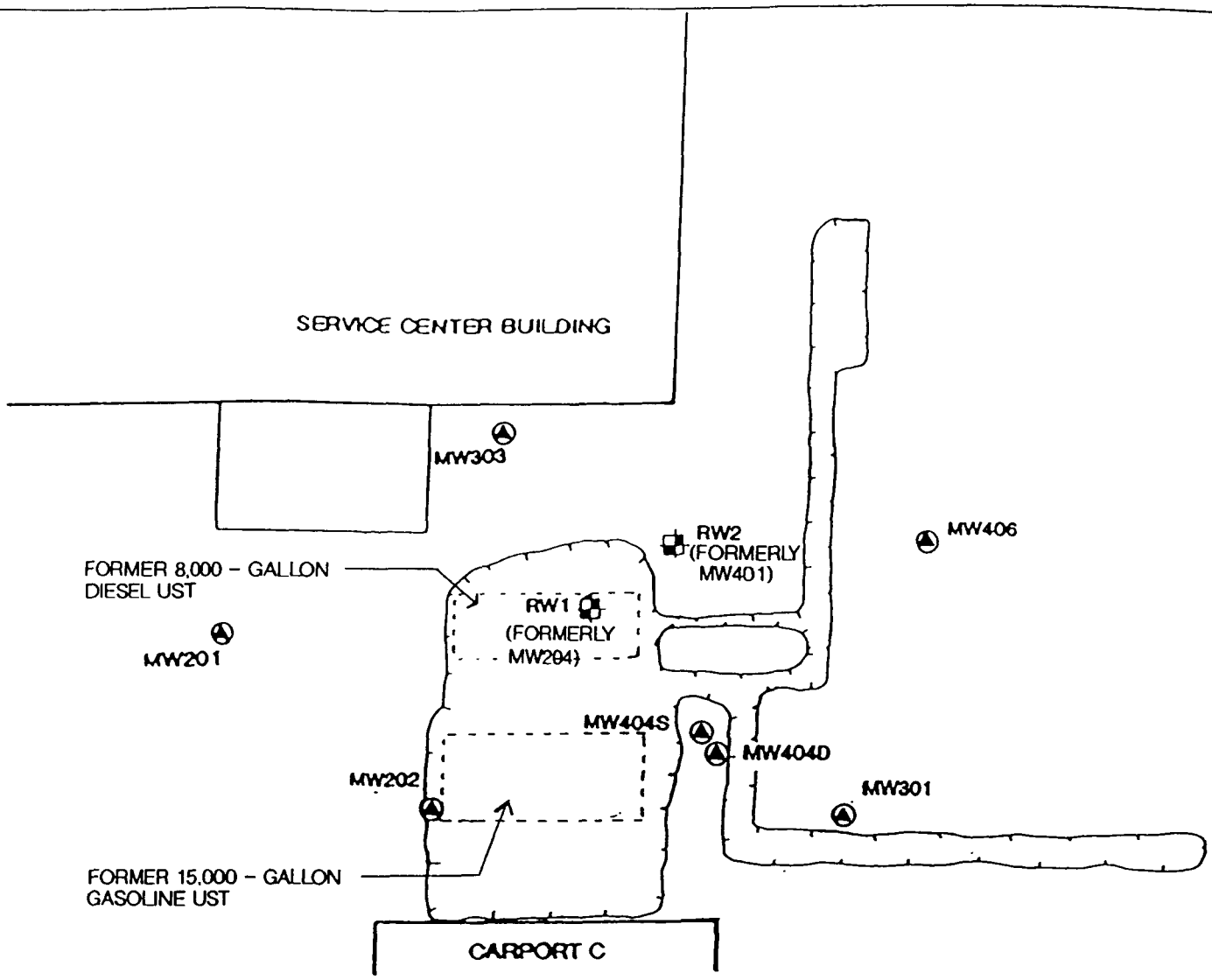
Information consistent with that required under Section 3.2 was previously presented to the MDEQ-STD in the following reports:

- Final Assessment Report — September 25, 1996
- Quarterly Groundwater Monitoring Reports (February, 1996 through May, 1998)

The frequency and duration of groundwater sampling was established to be consistent with the objectives of the corrective action plan. Groundwater samples collected to date at the site have been evaluated for BTEX, PNAs and lead. Current BTEX and PNA concentrations for groundwater samples collected from site monitoring wells are either less than the MDLs, Tier I Industrial RBSLs or calculated Tier II SSTLs. The current lead concentration for samples collected from site monitoring wells is greater than the Tier I Industrial RBSL, however it has been demonstrated that the level of impact does not pose a threat to human health and/or the environment given the current and future site use.

ATTACHMENT A

FIGURES



NOTES:

1. MW201 - MW202 WERE INSTALLED IN FEBRUARY 1995.
2. MW301 - MW303 WERE INSTALLED IN MAY 1995.
3. MW401, MW404S, MW404D & MW406 WERE INSTALLED IN MARCH 1996.
4. RW1 WAS INSTALLED IN MARCH 1996 BY OVERDRILLING MW204.
5. RW2 WAS INSTALLED IN NOVEMBER 1997 BY OVERDRILLING MW401.
6. MW201, MW202, MW301, MW303, MW404D & RW1 ARE SCREENED IN THE LOWER GROUNDWATER UNIT.
7. MW404S, MW406 & RW2 ARE SCREENED IN THE UPPER GROUNDWATER UNIT.

LEGEND

RW1 — RECOVERY WELL

MW301 — MONITORING WELL

FORMER UST SYSTEMS EXCAVATION

SCALE IN FEET

0 10 20 40

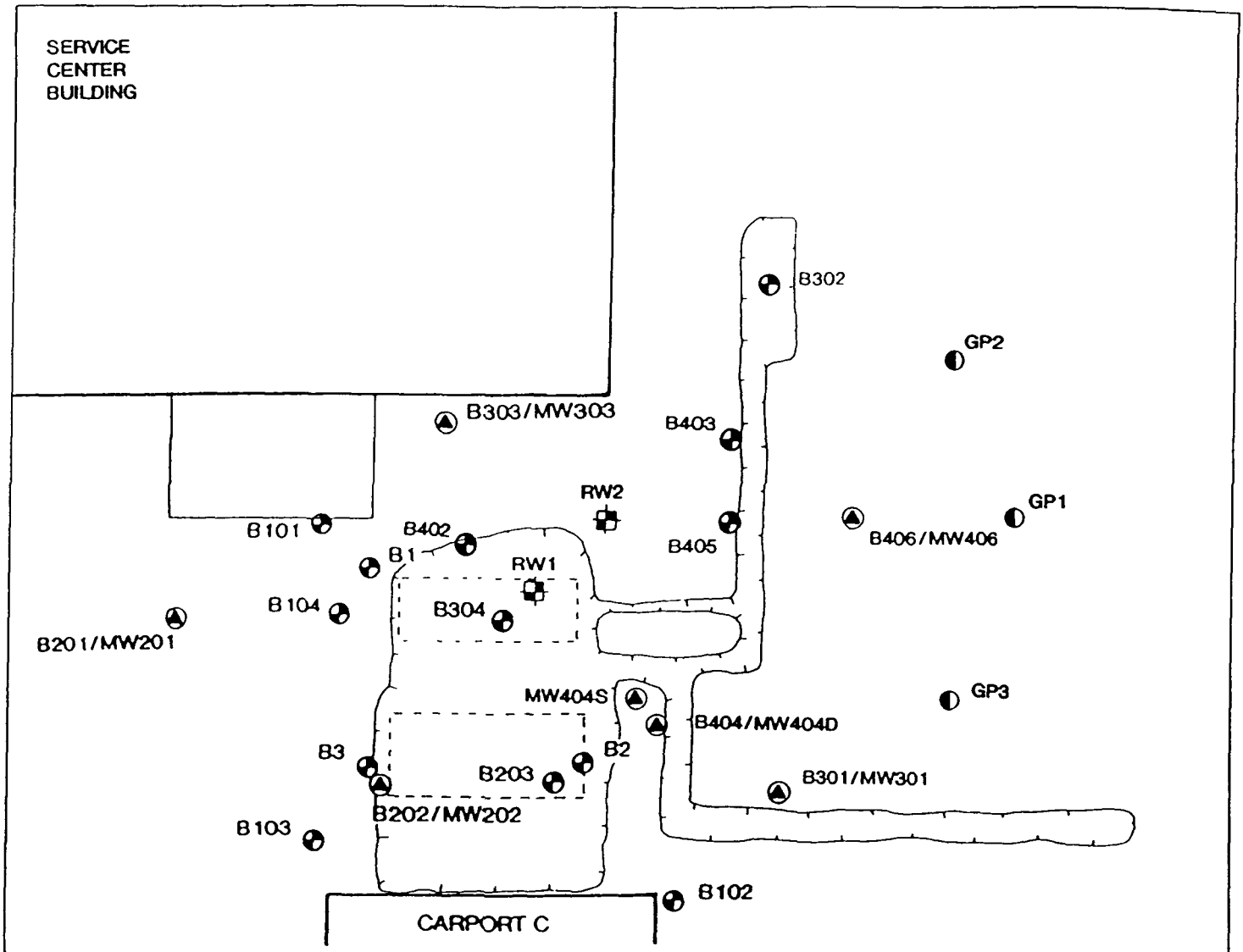
NORTH

Date 08-03-98	BAY CITY	soil and materials engineers, inc.	MONITORING WELL LOCATION DIAGRAM
Drawn By ARR/TAC	KALAMAZOO		CONSUMERS POWER COMPANY
Scale 1" = 20'	LANSING		KALAMAZOO SERVICE CENTER
Job PE 21914	PLYMOUTH		KALAMAZOO, MICHIGAN
	TOLEDO		

DWG NO 21914-50

FIGURE 1-A

K00004675



NOTES:

1 B1 - B3 AND B101- B104 DRILLED IN DECEMBER 1994
2. B201 - B204 DRILLED IN FEBRUARY 1995.
3 B301 - B304 DRILLED IN MAY 1995.
4 B401 - B406 DRILLED IN MARCH 1996.
5. MW204 REPLACED WITH RW1 IN MARCH 1996.
6 GP1 - GP3 CORED IN AUGUST 1996.
7 MW401 REPLACED WITH RW2 IN NOVEMBER 1997

LEGEND

- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- RECOVERY WELL LOCATION
- GEOPROBE LOCATION
- FORMER UST SYSTEM EXCAVATION LIMITS

NORTH

REVISED DIAGRAM 8-12-98

Date 8-21-96	BAY CITY	soil and materials engineers, inc.	SOIL BORING/MONITORING WELL LOCATION DIAGRAM CONSUMERS POWER COMPANY KALAMAZOO SERVICE CENTER KALAMAZOO, MICHIGAN
Drawn By ARR	KALAMAZOO		
Scale 1 - 20	LANSING		
Job PE 21914	PLYMOUTH		
	TOLEDO		

DWG NO 21914- 51

Figure No 2-A

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ATTACHMENT B

TABLES

TABLE 1

COMPARISON OF COCS FOR GROUNDWATER
TO SELECTED RBSLs
Kalamazoo Service Center
Consumers Energy Company
Kalamazoo, Michigan
SME Project No. PE21914

Constituents of Concern	Current Maximum Observed Concentrations (ppb)	Residential and Commercial I Drinking Water (ppb)	Residential and Commercial I GVIAI (ppb)	Groundwater Ingestion at 385 feet Tier II SSTL (4) (ppb)
Volatiles				
Ethylbenzene	580	74	>S (1.7 E+5)	56,000
Xylene(s)	4,000	280	>S (1.9 E+5)	97,000

Notes:
(1) ppb = parts per billion or ug/L.
(2) >S = greater than solubility in water. Solubility concentration in ( ).
(3) GVIAI = Groundwater Volatilization Indoor Air Inhalation.
(4) Criteria developed using Michigan-specific "Tier 2 RBCA Tool Kit, Version 1.0."

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S\BARRESE\PE21914\TA-23\PGB\7-30-98

TABLE 2

TIER I RBSL/TIER II SSTL COMPARISON TABLE
FOR SOIL
Consumers Energy Company
Kalamazoo Service Center
Kalamazoo, Michigan
SME Project No. PE21914

Contaminant	Sample ID with Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (ppb)	Applicable Criterion	
				Tier I RBSL (ppb)	Tier II SSTL (ppb)
VOLATILES					
Benzene	B405-S5 (20-22 FT. BG)	3/22/96	14	100	NC
Toluene	B204-S1 (14-16 FT. BG)	2/15/95	23	16,000	NC
Ethylbenzene	B204-S1 (14-16 FT. BG)	2/15/95	180	4,700	NC
Xylene(s)	B204-S1 (14-16 FT. BG)	2/15/95	2,200	74,000	NC
POLYNUCLEAR AROMATICS (PNAs)					
Acenaphthene	S32 (13 FT. BG)	11/10/94	2,000	300,000	NC
Acenaphthylene	S21 (12.5 FT. BG)	10/19/94	330	2,900	NC
Anthracene	S32 (13 FT. BG)	11/10/94	3,000	41,000	NC
Benzo(a)anthracene	S32 (13 FT. BG)	11/10/94	4,800	14,000	NC
Benzo(a)pyrene	S32 (13 FT. BG)	11/10/94	2,700	21,000	NC
Benzo(b)fluoranthene	S32 (13 FT. BG)	11/10/94	780	14,000	NC
Benzo(g,h,i)perylene	S32 (13 FT. BG)	11/10/94	1,700	1,500,000	NC
Benzo(k)fluoranthene	S32 (13 FT. BG)	11/10/94	4,100	140,000	NC
Chrysene	S32 (13 FT. BG)	11/10/94	8,900	1,400,000	NC
Dibenzo-(a,h)anthracene	S32 (13 FT. BG)	11/10/94	850	1,400	NC
Fluoranthene	S32 (13 FT. BG)	11/10/94	15,000	720,000	NC
Fluorene	S32 (13 FT. BG)	11/10/94	21,000	390,000	NC
Indeno(1,2,3-cd)pyrene	S32 (13 FT. BG)	11/10/94	3,800	14,000	NC
2-Methylnaphthalene	S21 (12.5 FT. BG)	10/19/94	330	17,000	NC
Naphthalene	S21 (12.5 FT. BG)	10/19/94	990	17,000	NC
Phenanthrene	S32 (13 FT. BG)	11/10/94	11,000	12,000	NC
Pyrene	S32 (13 FT. BG)	11/10/94	5,200	470,000	NC
METALS					
Lead	S9 (1.5 FT. BG)	10/18/94	11,000	21,000	NC

Notes:
(1) Land use for site is commercial.
(2) Concentrations reported in parts per billion (ppb or ug/L).
(3) NC = SSTL not calculated for contaminant.

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TABLE 3

TIER I RBSL/TIER II SSTL COMPARISON TABLE
FOR GROUNDWATER
Consumers Energy Company
Kalamazoo Service Center
Kalamazoo, Michigan
SME Project No. PE21914

Contaminant	Sample ID with Current Maximum Detected Concentration	Corresponding Sample Date	Maximum Detected Concentration (ppb)	Applicable Criterion	
				Tier I RBSL (ppb)	Tier II SSTL (ppb)
VOLATILES					
Benzene	MW404S (Upper Unit)	4/22/98	1	5	NC
Toluene	RW2 (formerly MW401)(Upper Unit)	4/22/98	260	790	NC
Ethylbenzene	MW406 (Upper Unit)	4/22/98	580	74	56,000
Xylene(s)	RW2 (formerly MW401)(Upper Unit)	4/22/98	4,000	280	97,000
POLYNUCLEAR AROMATICS (PNAs)					
Acenaphthene			<5		
Acenaphthylene			<5		
Anthracene			<5		
Benzo(a)anthracene			<5		
Benzo(a)pyrene			<5		
Benzo(b)fluoranthene			<5		
Benzo(g,h,i)perylene			<5		
Benzo(k)fluoranthene			<5		
Chrysene			<5		
Dibenzo-(a,h)anthracene			<5		
Fluoranthene			<5		
Fluorene			<5		
Indeno(1,2,3-cd)pyrene			<5		
2-Methylnaphthalene	RW2 (formerly MW401)(Upper Unit)	4/22/98	29	260	NC
Naphthalene	RW2 (formerly MW401)(Upper Unit)	4/22/98	160	260	NC
Phenanthrene			<5		
Pyrene			<5		
METALS					
Lead	RW2 (formerly MW401)(Upper Unit)	4/22/98	13	4	NC

Notes:
(1) Land use for site is commercial.
(2) Concentrations reported in parts per billion (ppb or ug/L).
(3) NC = SSTL not calculated for contaminant.

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ATTACHMENT C

MODEL DOCUMENTATION
ETHYLBENZENE AND XYLENE(S) EVALUATION

STATE OF MICHIGAN RBCA TIER 1/TIER 2 EVALUATION

Output Table 1

Site Name KALAMAZOO SERVICE CENTER Identification PE21914
Site Location KALAMAZOO, MI Date Completed 8/11/96
Completed By PGB

Software GSI RBCA - Michigan
Version v1 0

NOTE. values which differ from Tier 1 default values are shown in bold italics and underlined

DEFAULT PARAMETERS

Exposure Parameter	Definition (Units)	Residential Adult		Commercial/Industrial Chronic	Commercial/Industrial Direct Contact
ATc	Averaging time for carcinogens (yr)	70			
ATn	Averaging time for non-carcinogens (yr)	30		21	21
BW	Body Weight (kg)	70		70	
ED	Exposure Duration (yr)	30		21	21
EF	Exposure frequency for groundwater (days/yr	350		245	20
EF	Exposure frequency for soil-ingestion (days/y	350		160	
EF D	Exposure frequency for soil-dermal (days/yr)	245		160	
IRgw	Ingestion Rate of Water (l/day)	2		1	
IRs	Ingestion Rate of Soil (mg/day)			50	100
IRadj	Adjusted soil ing rate (mg-yr/kg-d)	114			
IRa in	Inhalation rate indoor (m^3/day)	15		20	
IRa out	Inhalation rate outdoor (m^3/day)	20		20	10
SA	Skin surface area (dermal) (cm^2)			2570	3000
SAadj	Adjusted dermal area (mg-yr/kg-d)	2442			
M	Soil to Skin adherence factor	1			
gwMCL?	Use Michigan Health Based GW Std ?	TRUE			
gwGSI?	Use GSI values as exposure limits ?	FALSE			
gwDC?	Use direct contact values as exposure limits	TRUE			
RSC	Relative source contribution	0 2	(groundwater)	1	(soil)
FC	Fraction of soil contaminated	1			
FD	Fraction of work day	0 5			
ET	Exposure time for groundwater direct contact	2			

Matrix of Exposed Persons to Complete Exposure Pathways		Residential	Commercial/Industrial Chronic
Groundwater Pathways			
GW i	Groundwater Ingestion	TRUE	FALSE
GW v	Volatilization to Outdoor Air	FALSE	TRUE
GW b	Vapor Intrusion to Buildings	FALSE	FALSE
Soil Pathways			
SS v	Volatiles and Particulate Inhalation	FALSE	FALSE
SS d	Direct Ingestion and Dermal Contact	FALSE	FALSE
S l	Leaching to Groundwater from all Soils	FALSE	FALSE
S b	Intrusion to Buildings - Subsurface Soils	FALSE	FALSE

Matrix of Receptor Distance and Location on- or off-site		Residential Distance	Residential On-Site	Commercial/Industrial Distance	Commercial/Industrial On-Site
GW	Groundwater receptor (cm)	1 2E+04	FALSE	1 2E+04	FALSE
S	Inhalation receptor (cm)		TRUE		FALSE

Matrix of Target Risks		Individual
TRab	Target Risk (class A&B carcinogens)	1 0E-05
TRc	Target Risk (class C carcinogens)	1 0E-05
THQ	Target Hazard Quotient	1 0E+00
Opt	Calculation Option (1 or 2)	2
Tier	RBCA Tier	2

Surface Parameters	Definition (Units)	Residential	Commercial/Industrial Chronic	Commercial/Industrial Utility Wrkr.
t	Exposure duration (yr)	30	21	21
A	Contaminated soil area (cm^2)	***9 3E+04***		
W	Length of affected soil parallel to wind (cm)	***3 0E+02***		
W gw	Length of affected soil parallel to groundwater (c	***3 0E+02***		
Uair	Ambient air velocity in mixing zone (cm/s)	2 3E+02		
delta	Air mixing zone height (cm)	2 0E+02		
PEF	Particulate emission factor (m^3/kg)	8 5E+07	8 5E+07	
Q Cvf	Emission Flux per Unit Concentration for VF	3 5E+01	3 5E+01	

Groundwater	Definition (Units)	Value
delta gw	Groundwater mixing zone depth (cm)	2 0E+02
I	Groundwater infiltration rate (cm/yr)	3 0E+01
Ugw	Groundwater Darcy velocity (cm/yr)	***3 8E+03***
Ugw tr	Groundwater Seepage velocity (cm/yr)	***1,5E+04***
Ks	Saturated Hydraulic Conductivity(cm/s)	4 0E-02
grad	Groundwater Gradient (cm/cm)	3 0E-03
Sw	Width of groundwater source zone (cm)	9 1E+02
Sd	Depth of groundwater source zone (cm)	1 5E+02
BIO?	Is Bioattenuation Considered	TRUE

Soil	Definition (Units)	Value
hc	Capillary zone thickness (cm)	***3 0E+01***
hv	Vadose zone thickness (cm)	***4 9E+02***
rho	Soil density (g/cm^3)	1 5
Lgw	Depth to groundwater (cm)	***5 2E+02***
Ls	Depth to top of affected soil (cm)	***4 0E+02***
Lsubs	Average source depth (cm)	***4 0E+02***
pH	Soil/groundwater pH	6 5

	Porosity	Volumetric Content Water	Volumetric Content Air	Fraction org. carbon
Foundation crack	-	0 12	0 28	-
Soil leaching pathway	0 25	0 16	0 09	0 002
Soil volatilization pathway	0 43	0 15	0 28	0 006
Csat calculation	0 25	0 09	0 16	0 006
Capillary zone	0 25	0 225	0 025	-
Saturated zone	0 25	-	-	0 001

Building	Definition (Units)	Residential	Commercial
Lb	Building volume/area ratio (cm)	2 0E+02	3 0E+02
ER	Building air exchange rate (s^-1)	1 4E-04	2 3E-04
Lcrk	Foundation crack thickness (cm)	1 5E+01	
eta	Foundation crack fraction	0 01	

Dispersive Transport Parameters	Definition (Units)	Residential	Commercial
Groundwater			
ax	Longitudinal dispersion coefficient (cm)	1 2E+03	
ay	Transverse dispersion coefficient (cm)	3 9E+02	
az	Vertical dispersion coefficient (cm)	5 9E+01	
Vapor			
dcy	Transverse dispersion coefficient (cm)		
dcz	Vertical dispersion coefficient (cm)		

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K00004682

Site Name KALAMAZOO SERVICE CENTER
Site Location KALAMAZOO, MI

Completed By PGB
Date Completed 8/11/1998

GROUNDWATER SSTL VALUES [µg/L]

Target Risk (Class A & B) 1 0E-05
Target Risk (Class C) 1 0E-05
Target Hazard Quotient 1 0E+00

■ Michigan health-based groundwater exposure limit?

Calculation Option: 2

SSTL Results For Complete Exposure Pathways ("x" if Complete)

CONSTITUENTS OF CONCERN		Representative Concentration	X Groundwater Ingestion				Direct Contact	Groundwater Volatilization to Indoor Air		X Groundwater Volatilization to Outdoor Air		Solubility	Applicable SSTL	SSTL Exceeded ?	Required CRF
CAS No.	Name	(µg/L)	Residential: 385 feet	Commercial (on-site)	GSI 385 feet	Aesthetic. 385 feet	Utility Worker: (on-site)	Residential (on-site)	Commercial (on-site)	Residential (on-site)	Commercial: (on-site)	(Pure Component)	(µg/L)	"■" If yes	Only if "yes" at left
100-41-4	Ethylbenzene	5 8E+2	>Sol	NA	NA	5.6E+4	NA	NA	NA	NA	>Sol	1.7E+5	5 6E+4	□	<1
1330-20-7	Xylenes	4 0E+3	>Sol	NA	NA	9.7E+4	NA	NA	NA	NA	>Sol	1.9E+5	9.7E+4	□	<1

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Software GSI RBCA - Michigan
Version v1 0

Serial G-463-AUX-156

K00004683

ATTACHMENT D

MODEL DOCUMENTATION
LEAD EVALUATION

K00004684

Steady State Attenuation Equation from Table X3.1
ASTM Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites, E 1739-95

x in feet	385
lambda	0 000005
S(w) in feet	30
S(d) in feet	5
K(s) in cm/sec	4 00E-03
i	0 003
theta(s)	0 25
C(source) in ppb	15

x	11734 80	distance along centerline from downgradient edge of dissolved plume source zone (cm)
alpha(x)	1173 48	longitudinal dispersivity (cm) ~ 0 10 x
alpha(y)	391 16	transverse dispersivity (cm) ~ alpha (x)/3
alpha(z)	58 67	vertical dispersivity (cm) ~ alpha (x)/20
lamda	0 000005	first-order degradation constant (day x 10-1)
S(w)	914 40	source width (perpendicular to flow in the horizontal plane) (cm)
S(d)	152 40	source width (perpendicular to flow in the vertical plane) (cm)
K(s)	345 60	saturated hydraulic conductivity (cm/day)
i	0 003	groundwater gradient (cm/cm)
theta(s)	0 25	volumetric water content of saturated zone (cm3-water/cm3-soil)
u	4 15	specific discharge (cm/day)
C(source)	1 5E-08	dissolved hydrocarbon concentration in dissolved plume source area (g/cm3-water)

Calculation #1	-0 01413	
exp(Calculation #1)	0 985971	
Calculation #2	0 106699	
erf(Calculation #2)	0 119942	
Calculation #3	0 045916	
erf(Calculation #3)	0 051774	
C(x)=	9 18E-11	dissolved hydrocarbon concentration along centerline (x,y=0, z=0) of dissolved plume (g/cm3-water)
C(x)=	9.18E-05	dissolved hydrocarbon concentration along centerline (x,y=0, z=0) of dissolved plume (ppm)
C(x)=	0 091842	dissolved hydrocarbon concentration along centerline (x,y=0, z=0) of dissolved plume (ppb)

x	erf(x)
2.3	0.998857

K00004685

ATTACHMENT E

RESTRICTIVE COVENANT

K00004686

STATE OF MICHIGAN
COUNTY OF KALAMAZOO
RECEIVED FOR RECORD

LIBER 2054 PG0916

'98 JUL 30 AM 9 15

CLERK - REGISTER

032599

17-
2- 3316

RESTRICTIVE COVENANT

DEQ MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - UNDERGROUND STORAGE TANK DIVISION

This information and form is required under Sections 21310a(2) and 21316 of Part 213, Leaking Underground Storage Tanks (LUST), of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Failure to comply with the provisions of this Act may result in civil fines not to exceed $10,000 for each day the violation continues or failure to comply continues.

INSTRUCTIONS: Use this form for filing the restrictive covenant with the register of deeds. This form is needed when the corrective action is based on a restrictive covenant for institutional controls. This form is not needed if an alternate mechanism is approved by the Department of Environmental Quality (Department) pursuant to Section 21310a(3) and 21310(4) of Part 213 If corrective action is based on the use of institutional controls regarding off-site migration of regulated substances, wait for USTD approval before recording the Restrictive Covenant with the register of deeds for contamination that has migrated or will migrate off-site. If the institutional controls are for on-site contamination, the owner/operator may proceed with recording the Restrictive Covenant with the register of deeds. In all cases, submit a copy of the Restrictive Covenant and proof of recording with the Closure Report (EQP 3843) to the appropriate USTD District Office listed on the back of the Closure Report Cover Sheet. This form must be completed in its entirety.

The below listed owner/operator has implemented a corrective action plan requiring institutional controls in the form of a restrictive covenant. The corrective action plan was developed as a result of a release from a Leaking Underground Storage Tank(s) (LUST) and was prepared pursuant to the provisions in Section 21310a(2) of Part 213. Regulated substances were discovered during the investigation and/or removal of Underground Storage Tanks (USTs).

This restrictive covenant is filed with the County Register of Deeds and covers the land identified in the following, and more fully described in Attachment A, attached. (*Attach a legal property description as Attachment A for the land where the restrictive covenant would apply, and a survey map of the areas addressed by this restrictive covenant.*). The restrictive covenant defines the areas addressed by the corrective action plan and the scope of any land use or resources limitations The survey defining the areas addressed by the corrective action plan is attached. (*Describe the scope of any land use or resource use limitations.*) See Survey Map of area addressed by this Restrictive Covenant.

The restrictive covenant is being filed by the below listed legal titleholder or with the express written permission of the legal titleholder. (*Attach permission statement from the legal titleholder if he/she is not signing this document.*)

Owner/Operator implementing the corrective action plan: Consumers Energy Company

Release Date(s): October 19, 1994

County where deed is registered: Kalamazoo

Common description of land, township/city, County 2500 East Cork Street; NW1/4 NW1/4 Section 36: T.2S., R.11W., Kalamazoo Township; Kalamazoo County, Michigan

K00004687

Now Therefore (Legal Titleholder Name and Address) Consumers Energy Company; 212 West Michigan Avenue; Jackson, Michigan 49201
(hereinafter referred to as the "titleholder"), hereby imposes restriction on the property and covenants and agrees that.

1 The Titleholder shall restrict activities on the property that may interfere with corrective action, operation and maintenance, monitoring, or other measures necessary to assure the effectiveness and integrity of the corrective action

2 The Titleholder shall restrict activities that may result in exposure to regulated substances above levels established in the corrective action plan.

3. The Titleholder shall prevent a conveyance of title, an easement, or any other interest in the property from being consummated without adequate and complete provision for compliance with the corrective action plan and prevention of exposure to regulated substances described in item 2 above.

4 The Titleholder shall grant to the Department of Environmental Quality (Department) and its designated representatives the right to enter the property at reasonable times for the purpose of determining and monitoring compliance with the corrective action plan, including but not limited to the right to take samples, inspect the operation of the corrective action measures, and inspect records.

5. Soil shall not be removed from the property described herein, unless it is characterized to determine if it can be relocated without posing a threat to the public health, safety, welfare or environment in the new location

6. The state may enforce the restrictions set forth in the covenant by legal action in a court of appropriate jurisdiction.

The restrictions and other requirements described in this Restrictive Covenant shall run with the land and be binding to the titleholder's successors, assigns, and lessees or their authorized agents, employees or persons acting under their direction or control. The restrictions shall apply until the Department determines that regulated substances no longer present an unacceptable risk to the public health, safety or welfare or to the environment. A copy of this Restrictive Covenant shall be provided to all heirs, successors, assigns, and transferees.

This Restrictive Covenant shall not be amended, modified or terminated except by a written instrument executed by and between the Titleholder at the time of the proposed amendment, modification, or termination, and the Department. Within five (5) days of executing an amendment, modification or termination of the Restrictive Covenant, the Titleholder shall record such amendment, modification or termination with the County Register of Deeds, previously named, and within five (5) days thereafter, the Titleholder shall provide a true copy of the recorded amendment, modification or termination to the Department.

If any provision of this Restrictive Covenant is also the subject of any laws or regulations established by any federal, state or local government, the stricter of the two standards shall prevail.

The undersigned person, if executing this Restrictive Covenant on behalf of the Titleholder, represents and certifies that they are duly authorized and have been fully empowered to execute and deliver this Restrictive Covenant.
I hereby attest to the accuracy of the statements in this document and all attachments. I further certify that the language on this form has not been modified in any way.

Judy M Schultz
Legal Titleholder or Authorized Representative's Signature

7/27/98
Date

JUDY M SCHULTZ
Print Legal Titleholder or Authorized Representative's Name

IN WITNESS WHEREOF the said Titleholder of the above described property has caused the Restrictive Covenant to be executed on the 27 day of July, 1998

K00004688

Signed in the presence of:

Nancy P Fisher
Witness

Diane M. Tyrrell
Witness

NANCY P FISHER
Print Witness' Name

DIANE M TYRRELL
Print Witness' Name

Subscribed and sworn to me before this 27 day of JULY, 1998.

Diane M. Tyrrell
Notary Public
DIANE M. TYRRELL

Jackson County, Michigan
(Insert County)

My Commission Expires: June 1, 2003

Drafted by:

Consumers Energy Company
Company Name

Robert G. Neumann
Print Name of Drafter

212 West Michigan Ave.; Jackson, MI; 49201
Company Address

EQP3854 (rev. 3/97)

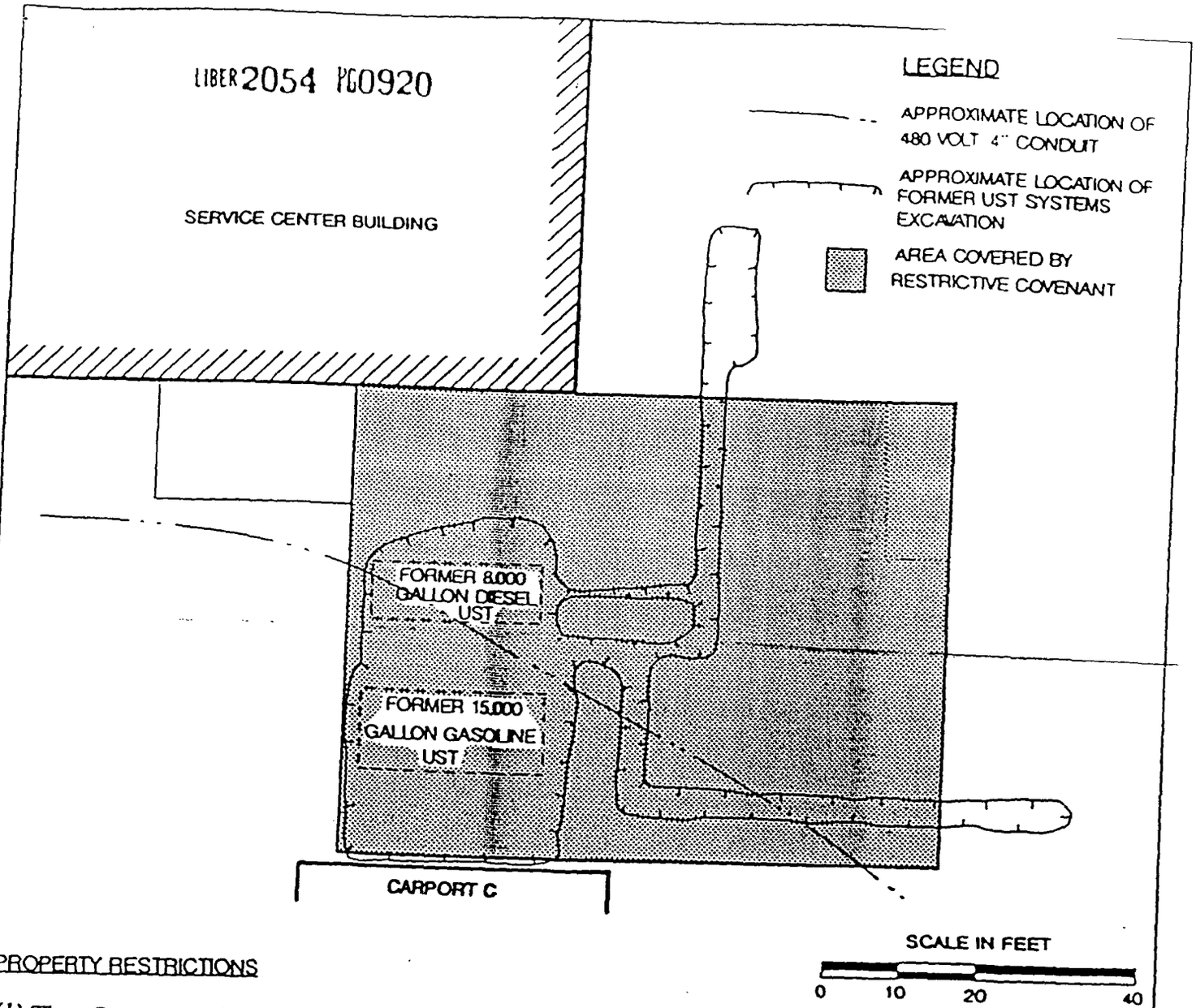
Return to: Real Estate & R/W Dept.
Consumers Energy Company
Nancy P. Fisher, P21-410B
1945 W. Parnall Road
Jackson, MI 49201

K00004689

ATTACHMENT A

AREA COVERED BY RESTRICTIVE COVENANT
AND
CERTIFICATE OF SURVEY

LIBER 2054 PG0920



PROPERTY RESTRICTIONS

(1) The Owner shall appropriately handle and dispose of potentially impacted soil and/or groundwater removed from the area of restriction.

(2) The Owner shall not install wells, drains or other structures which utilize impacted water for consumption, irrigation, on-site processes or other uses which would cause impacted groundwater to be redirected to a non-impacted area.

(3) The Owner shall restrict activities that may result in exposure to regulated substances above levels established in release closure documentation. In the event that excavation or subsurface work for any purpose is completed in the area of restriction the Owner shall stipulate that workers follow an appropriate health and safety program including monitoring air in the work space for volatile organic compounds in accordance with applicable local, state and federal guidelines.

NORTH

Date 5-19-98	BAY CITY KALAMAZOO LANSING PLYMOUTH TOLEDO	soil and materials engineers, inc.	**ATTACHMENT A** AREA COVERED BY RESTRICTIVE COVENANT CONSUMERS ENERGY COMPANY KALAMAZOO SERVICE CENTER KALAMAZOO, MICHIGAN
Drawn By ARR			
Scale 1" = 20			
Job PE 21914			

DWG NO 21914-49

K00004691

Certificate of Survey

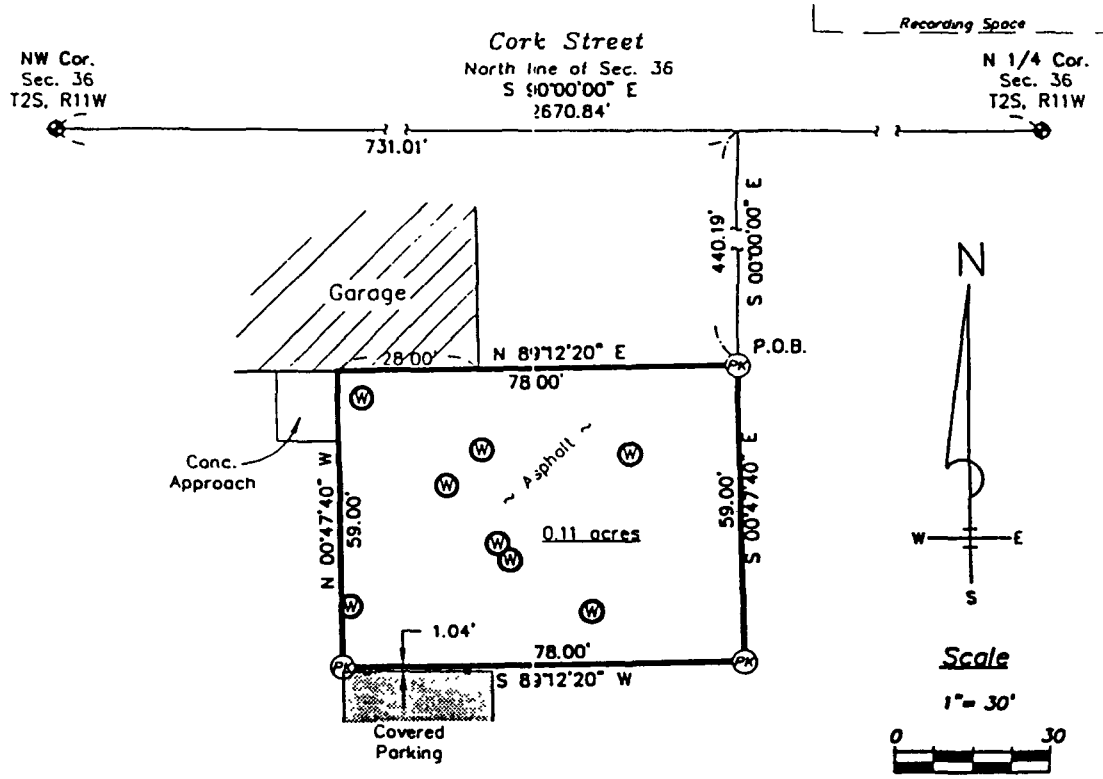
Part of the Northwest 1/4 of Sec. 36
T2S, R11W

City of Kalamazoo., Kalamazoo Co.

(Deed Reservation – Kalamazoo Service Center)

LIBER 2054 PG 0921

Recording Space



Parcel Description

A parcel of land in the Northwest 1/4 of Sectior 36, Town 2 South, Range 11 West, City of Kalamazoo, Kalamazoo County, Michigan, more particularly described as follows:

Commencing at the Northwest Corner of said Section 36, thence South 90°00'00" East along the North line of said section, 731.01 feet; thence South 00°00'00" East, 440.19 feet to the Point of Beginning of this description; thence South 00°47'40" East, 59.00 feet; thence South 89°12'20" West 78.00 feet; thence North 00°47'40" West, 59.00 feet; thence North 89°12'20" East, 78.00 feet to the Point of Beginning. Containing 0.11 acres, more or less

Said parcel subject to all easements and restrictions.

Legend

- Section Corner
- Set PK Nail
- Monitoring Well

Basis of Bearings

Bearings are based on the North line of Section 36 from the NW corner to the N 1/4 corner as being S 90°00'00"E.

Witnesses

NW Corner of Sec. 36
Fnd. 1/2" rebar in Mon. box 1.75' dn.

N 33° E	59.40'	Top ctr. of base cover of ped. walk sign pole
N 39° W	55.87'	Top ctr. of base cover of ped. walk sign pole
S 42° W	45.51'	Set N & "TLL" tag in E. side of power pole
S 13° E	38.04'	NE cor. conc. foundation for traffic signal pole

N 1/4 Corner of Sec. 36
Fnd. Cast iron survey marker in Mon. box 1' dn.

N 54° E	42.86'	Set N & "TLL" tag in SE side of power pole
N 14° E	85.05'	SW cor. of building
N 80° W	152.81'	Top nut of fire hydrant
S 59° W	153.82'	Set N & "TLL" tag in E side of power pole

K00004692

STATE OF MICHIGAN
THOMAS L. LAAKSO
Land Surveyor
No. 30087
LICENSED LAND SURVEYOR

PROFESSIONAL SURVEYOR

JOB #	9804.1661
DRAWN	B.F Schonz
DATE	5-5-98
SCALE	1" = 30'
PAGE	1 OF 1

SHERIDAN SURVEYING CO.
4629 Page Ave Michigan Center, MI 49254

I HEREBY CERTIFY THAT I HAVE SURVEYED THE PARCEL OF LAND AS ABOVE SHOWN OR DESCRIBED ON 4-22-98 AND THAT THE RATIO OF CLOSURE ON THE UNADJUSTED FIELD OBSERVATIONS WAS 1 5 000 OR BETTER AND THAT THIS SURVEY COMPLIES WITH ALL THE REQUIREMENTS OF P A 132 OF 1970 AS AMENDED

FILE NAME: 1641132.dwg

ATTACHMENT F

NOTICE TO LOCAL UNIT(S) OF GOVERNMENT OF LAND USE RESTRICTIONS

K00004693

Consumers Energy

A CMS Energy Company

Environmental & Technical
Services Department
1945 West Parnall Road
Jackson, MI 49201-8643

Tel: 517 788 1930
Fax: 517 788 2329

September 11, 1998

Linda Hartwell
Acting Supervisor of Records
City Clerk
City of Kalamazoo
241 W South Street
Kalamazoo, MI 49007

7SM905.9.7

RECEIVED
SEP 14 1998
SME PLYMOUTH

NOTICE OF LAND USE RESTRICTIONS
CONSUMERS ENERGY COMPANY
KALAMAZOO SERVICE CENTER
2500 E CORK STREET, KALAMAZOO

Consumers Energy Company has prepared this letter to provide notice of land use restrictions related to closure of former underground storage tanks at the Consumers Energy Company Kalamazoo Customer Service Center, 2500 E Cork Street, Kalamazoo. The land use restrictions are detailed in the attached copy of the restrictive covenant filed with the Kalamazoo County Register of Deeds. This notification is provided in accordance with Section 213a(5) and 21316 of Part 213 of the Natural Resource and Environmental Protection Act, 1994 PA 451, as amended.

If there are any questions, please do not hesitate to contact me on 517-788-0350.

Robert G Neumann PE
UST Compliance Engineer

cc AFGoodman, M-1041
LABaker, P-21-212
DHaueisen, Kalamazoo
AMAurino, Owosso
CAKehres-Dietrich, SME
WJHaywood, P-21-400
MEStevens, Bay City

K00004694

00898-28.RGN

DEQ MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY STORAGE TANK DIVISION

NOTICE TO LOCAL UNIT(S) OF GOVERNMENT OF LAND USE RESTRICTIONS

This information and form is required under Sections 21310a(5) and 21316 of Part 213 Leaking Underground Storage Tanks (LUST) of the Natural Resources and Environmental Protection Act 1994 PA 451 as amended Failure to comply with the provisions of this Act may result in civil fines not to exceed $10 000 for each day the violation continues or failure to comply continues

Instructions: (1) Use this form to provide notice of land use restrictions that are part of the corrective action plan to the Local Unit(s) of Government (LUG) (2) If corrective action is based on the use of institutional controls regarding off-site migration of regulated substances, submit a draft copy of this notification with the corrective action plan and wait for Storage Tank Division (STD) approval before providing notice to the LUG If the institutional controls are for on-site contamination, the owner/operator may proceed with providing notice to the LUG. (3) Send the notice to the city, village or township clerk Provide a copy to the County/District Health Department if groundwater exceeds Tier 1 residential criteria. (4) Submit a copy of the notice and proof of providing the notice with the Closure Report (EQP 3843) to the appropriate STD District Office listed on the back of the Closure Report Cover Sheet

City of Kalamazoo/City Clerk
Name of Local Unit of Government

County of Kalamazoo/ Environmental Health
Name of Local Unit of Government

Notice to the Local Unit of Government Receiving this Form:
A corrective action plan for the site named below has been developed as a result of a release from an underground storage tank. This form and the attachments are to provide the local unit(s) of government notice of the land use restrictions that are part of the corrective action plan. A copy of the institutional control mechanism(s) in the form of a Corrective Action Notice to Register of Deeds, and/or Restrictive Covenant, and/or alternate mechanism is/are attached. The attached institutional control mechanism(s) describe the land use restrictions and the land where the restrictions apply.

Owner or Operator: Consumers Energy Company

Site Name: Kalamazoo Service Center

Site Address: 2500 East Cork St. City: Kalamazoo State: MI Zip: 49001

Contact Person: Robert G. Neumann, PE Phone Number: (517) 788-0350

Mailing Address: 1945 W. Parnall Rd. City: Jackson State: MI Zip: 49207

Qualified Underground Storage Tank Consultant: Soil and Materials Engineers, Inc.

Address 43980 Plymouth Oaks Blvd. City Plymouth State. MI Zip: 48170-2584

Contact Person: Cheryl A. Kehres-Dietrich, CGWP Phone Number: (734) 454-9900

I hereby attest to the accuracy of the statements in this document and all attachments I further certify that the language on this form has not been modified

Scott M Cole 9/9/98

Owner or Operator's Signature Date

APPROVED AS TO FORM
DAY

EQP3872 (Rev 5/98)

K00004695

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services
- Complete items 3, and 4a & b
- Print your name and address on the reverse of this form so that we can return this card to you
- Attach this form to the front of the mailpiece, or on the back if space does not permit
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered

I also wish to receive the following services (for an extra fee).

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Linda Hartwell
Acting Supervisor of Records
City Clerk
City of Kalamazoo
241 W. South Street
Kalamazoo, MI 49007

4a. Article Number
Z 416 986 737

4b. Service Type
☐ Registered ☐ Insured
☑ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
9-14-98

5. Signature (Addressee)
Monica Amador

6. Signature (Agent)
Monica Amador

8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

PS Form 3811, December 1991 ☆ USGPO 1992-307-530 DOMESTIC RETURN RECEIPT

RECEIVED
SEP 17 1998
SME PLYMOUTH

K00004696

Consumers Energy

A CMS Energy Company

Environmental & Technical
Services Department
1945 West Parnall Road
Jackson, MI 49201-8643

Tel. 517 788 1930
Fax: 517 788 2329

September 11, 1998

Deb Werner RS
Environmental Health
Kalamazoo County
3299 Gull Road
Nazareth, MI 49074

7SM905.9.7

NOTICE OF LAND USE RESTRICTIONS
CONSUMERS ENERGY COMPANY
KALAMAZOO SERVICE CENTER
2500 E CORK STREET, KALAMAZOO

Consumers Energy Company has prepared this letter to provide notice of land use restrictions related to closure of former underground storage tanks at the Consumers Energy Company Kalamazoo Customer Service Center, 2500 E Cork Street, Kalamazoo. The land use restrictions are detailed in the attached copy of the restrictive covenant filed with the Kalamazoo County Register of Deeds. This notification is provided in accordance with Section 213a(5) and 21316 of Part 213 of the Natural Resource and Environmental Protection Act, 1994 PA 451, as amended.

If there are any questions, please do not hesitate to contact me on 517-788-0350.

Robert G Neumann PE
UST Compliance Engineer

cc AFGoodman, M-1041
LABaker, P-21-212
DHauesien, Kalamazoo
AMAurino, Owosso
CAKehres-Dietrich, SME
WJHaywood, P-21-400
MEStevens, Bay City

K00004697

00898-29.RGN

DEQ MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY STORAGE TANK DIVISION

NOTICE TO LOCAL UNIT(S) OF GOVERNMENT OF LAND USE RESTRICTIONS

This information and form is required under Sections 21310a(5) and 21316 of Part 213 Leaking Underground Storage Tanks (LUST) of the Natural Resources and Environmental Protection Act 1994 PA 451 as amended Failure to comply with the provisions of this Act may result in civil fines not to exceed $10 000 for each day the violation continues or failure to comply continues

Instructions: (1) Use this form to provide notice of land use restrictions that are part of the corrective action plan to the Local Unit(s) of Government (LUG) (2) If corrective action is based on the use of institutional controls regarding off-site migration of regulated substances, submit a draft copy of this notification with the corrective action plan and wait for Storage Tank Division (STD) approval before providing notice to the LUG If the institutional controls are for on-site contamination, the owner/operator may proceed with providing notice to the LUG. (3) Send the notice to the city, village or township clerk Provide a copy to the County/District Health Department if groundwater exceeds Tier 1 residential criteria (4) Submit a copy of the notice and proof of providing the notice with the Closure Report (EQP 3843) to the appropriate STD District Office listed on the back of the Closure Report Cover Sheet

City of Kalamazoo/City Clerk
Name of Local Unit of Government

County of Kalamazoo/ Environmental Health
Name of Local Unit of Government

Notice to the Local Unit of Government Receiving this Form:
A corrective action plan for the site named below has been developed as a result of a release from an underground storage tank. This form and the attachments are to provide the local unit(s) of government notice of the land use restrictions that are part of the corrective action plan. A copy of the institutional control mechanism(s) in the form of a Corrective Action Notice to Register of Deeds, and/or Restrictive Covenant, and/or alternate mechanism is/are attached. The attached institutional control mechanism(s) describe the land use restrictions and the land where the restrictions apply.

Owner or Operator: Consumers Energy Company

Site Name: Kalamazoo Service Center

Site Address: 2500 East Cork St. City: Kalamazoo State: MI Zip: 49001

Contact Person: Robert G. Neumann, PE Phone Number: (517) 788-0350

Mailing Address: 1945 W. Parnall Rd. City: Jackson State: MI Zip: 49207

Qualified Underground Storage Tank Consultant: Soil and Materials Engineers, Inc.

Address 43980 Plymouth Oaks Blvd. City Plymouth State: MI Zip: 48170-2584

Contact Person: Cheryl A. Kehres-Dietrich, CGWP Phone Number: (734) 454-9900

I hereby attest to the accuracy of the statements in this document and all attachments I further certify that the language on this form has not been modified

Scott M Cole — 9/9/98

Owner or Operator's Signature — Date

APPROVED AS TO FORM
DAY

EQP3872 (Rev 5/98)

K00004698

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services
- Complete items 3 and 4a & b
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit
- Write "Return Receipt Requested" on the mailpiece below the article number
- The Return Receipt will show to whom the article was delivered and the date delivered

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3 Article Addressed to:
Deb Werner RS
Environmental Health
Kalamazoo County
3299 Gull Road
Nazareth, MI 49074

4a. Article Number
2416986738

4b. Service Type
☐ Registered ☐ Insured
☑ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
9.14.98

5 Signature (Addressee)
P. Alexander

6. Signature (Agent)
Paul A. Alexander

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

K00004699

EXHIBIT 6A

11-30-98

MDEQ CLOSURE REPORT ACKNOWLEDGEMENT

K00004700

STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET www deq state mi us

RUSSELL J. HARDING, Director

received
12-7-98

REPLY TO

PLAINWELL DISTRICT OFFICE
1342 SR 89 W STE B
PLAINWELL MI 49080-1915

November 30, 1998

Mr. Robert G. Neumann
Consumers Energy Company
1945 West Parnall Road
Jackson, MI 49201

Dear Mr. Neumann:

SUBJECT: Closure Report Receipt Date: September 24, 1998
Confirmed Release Date(s): October 19, 1994, October 20, 1994
Location of Tank(s): Consumers Power Kalamazoo Service Center, 2500 East Cork Street, Kalamazoo, Kalamazoo County, Michigan
Facility ID #: 0-017371
MERA Site ID #: 390151

In accordance with Section 21312a(2) of Part 213 Leaking Underground Storage Tanks (LUST) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, (Act 451) the Storage Tank Division (STD) of the Department of Environmental Quality (DEQ) acknowledges receipt of your closure report. This closure report was submitted on your behalf by Soil and Materials Engineers, Inc., Qualified Underground Storage Tank Consultant (QC), and certified by Cheryl A. Kehres-Dietrich, Certified Professional (CP).

The closure report submitted by the QC concludes that corrective actions at the site have been completed in accordance with Part 213, and that Corrective Action at the site has resulted in RESTRICTED USE of the site based on a Tier 2 evaluation, utilizing institutional controls. The following land use or resource use restriction mechanisms have been established:

- A restrictive covenant has been recorded with the register of deeds for Kalamazoo County as outlined in Section 21310a(2) of Act 451. The following land use or resource use restriction mechanisms are included in the restrictive covenant:
    - The owner shall appropriately handle and dispose of potentially impacted soil and/or groundwater removed from the area of the restriction;
    - The owner shall not install wells, drains, or other structures which utilize impacted water for consumption, irrigation, on-site processes or other uses which would cause impacted groundwater to be redirected to a non-impacted area.

K00004701

- The owner shall restrict activities that may result in exposure to regulated substances above levels established in release closure documentation. In the event that excavation or subsurface work for any purpose is completed in the area of the restriction the owner shall stipulate that workers follow an appropriate health and safety program including monitoring air in the work space for volatile organic compounds in accordance with applicable local, state and federal guidelines.

This list does not necessarily represent a complete list of property or resource uses which are prohibited at the site. Any activities which would interfere with corrective action, operation and maintenance, monitoring, or other measures necessary to assure the effectiveness and integrity of the corrective action, or which would result in exposure to regulated substances above levels established in the corrective action plan are similarly prohibited.

Any conveyance of title, easement, or other interest in the property must include adequate and complete provision for compliance with the corrective action plan and prevention of exposure to regulated substances.

Please note that when contaminated soil and/or groundwater as a result of a release of a regulated substance remains on site consistent with site closure requirements, the owner/operator shall not remove or allow this soil and/or groundwater to be removed from the site to an off-site location without properly characterizing the soils and/or groundwater to determine that they can be lawfully relocated without posing a threat to the public health safety, or welfare, or the environment. The determination shall consider whether the soil and/or groundwater is subject to regulations under Part 111 of Act 451.

Under Section 21315(1) of Act 451, the STD may initiate an audit of the results of the investigation and corrective actions undertaken to confirm the results and conclusions indicated by the QC within six months of receipt of the closure report. If an audit is initiated within this time frame, and the audit confirms that corrective action has been conducted in compliance with Part 213 and that the cleanup criteria have been met, you will be provided with a letter describing the audit and its results, as described in Section 21315(3) of Act 451. The STD audit would consist of a review of file documents, and may include the collection of soil and/or groundwater samples from the facility to verify that the levels of remaining contaminants certified by your QC are accurate.

All groundwater monitoring wells and other similar devices installed as part of the corrective action activities at the site will need to be properly abandoned when they are no longer needed for their original purpose or modified purpose, in accordance with Part 625, Mineral Wells of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; and Part 127 Water Supply and Sewer Systems of the Public Health Code, 1978 PA 368, as amended and the rules promulgated thereunder. Proper abandonment of groundwater monitoring wells and other potential conduits for contamination should be performed within 60 days after use has been discontinued, and documentation of abandonment submitted to the STD District Office responsible for oversight. However, if the STD conducts an audit which **does not** confirm that corrective action is complete, additional information and/or corrective action may be required as

set forth in Section 21315(3) of Act 451. Therefore, it is recommended that abandonment not be performed until either the department provides a letter indicating that the closure report has been audited and we concur with the conclusions that corrective action activities have been completed; or until the six month time frame for the department to conduct a closure audit expires.

If you have any questions, please contact me at the telephone number below.

Sincerely,

Debra S. Clark
Environmental Quality Analyst
Storage Tank Division
616-692-2892

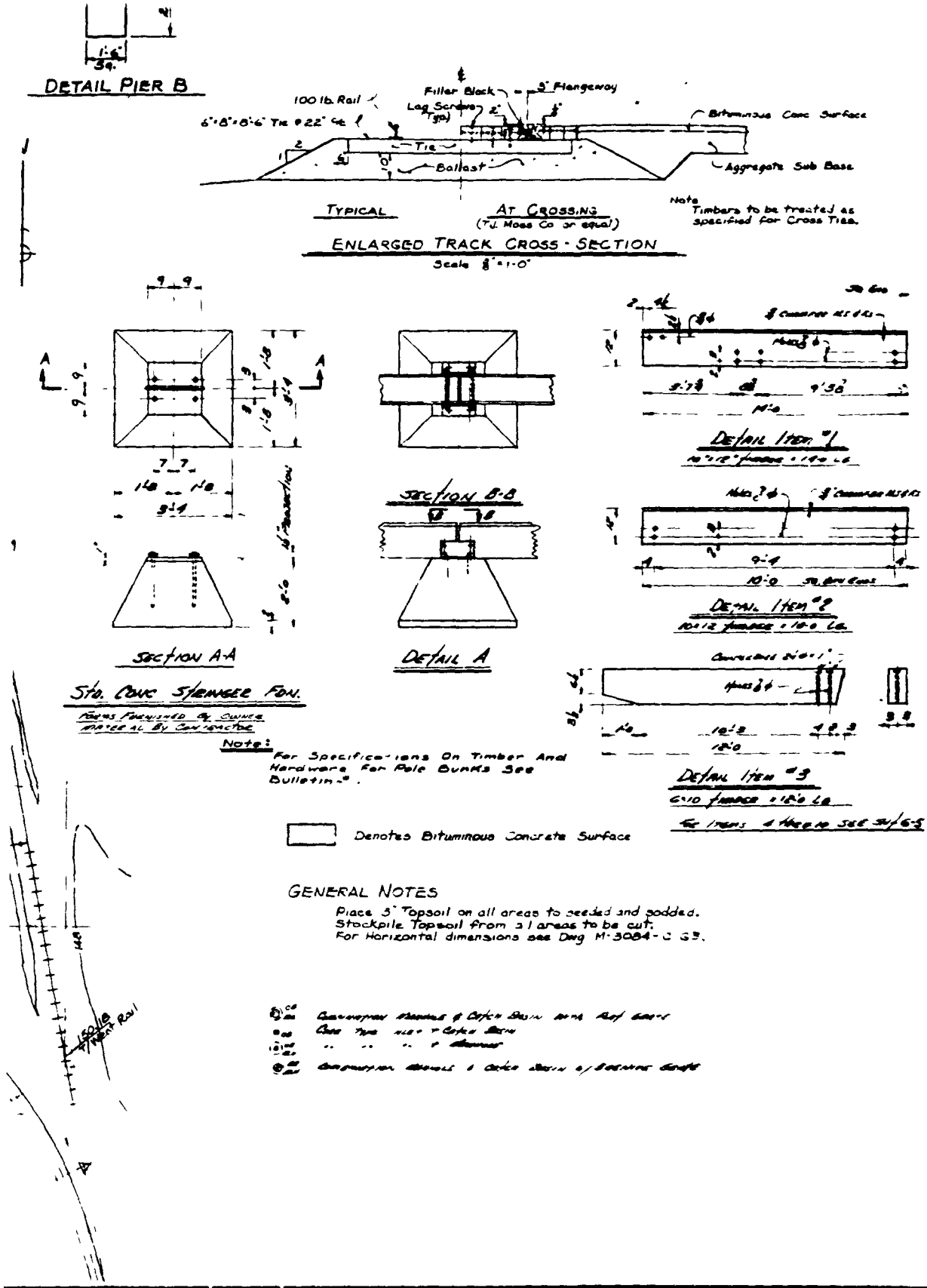
DSC/kjo

cc: Soil and Materials Engineers, Inc.
Mr. Thomas F. Kohl, MDEQ

EXHIBIT 7

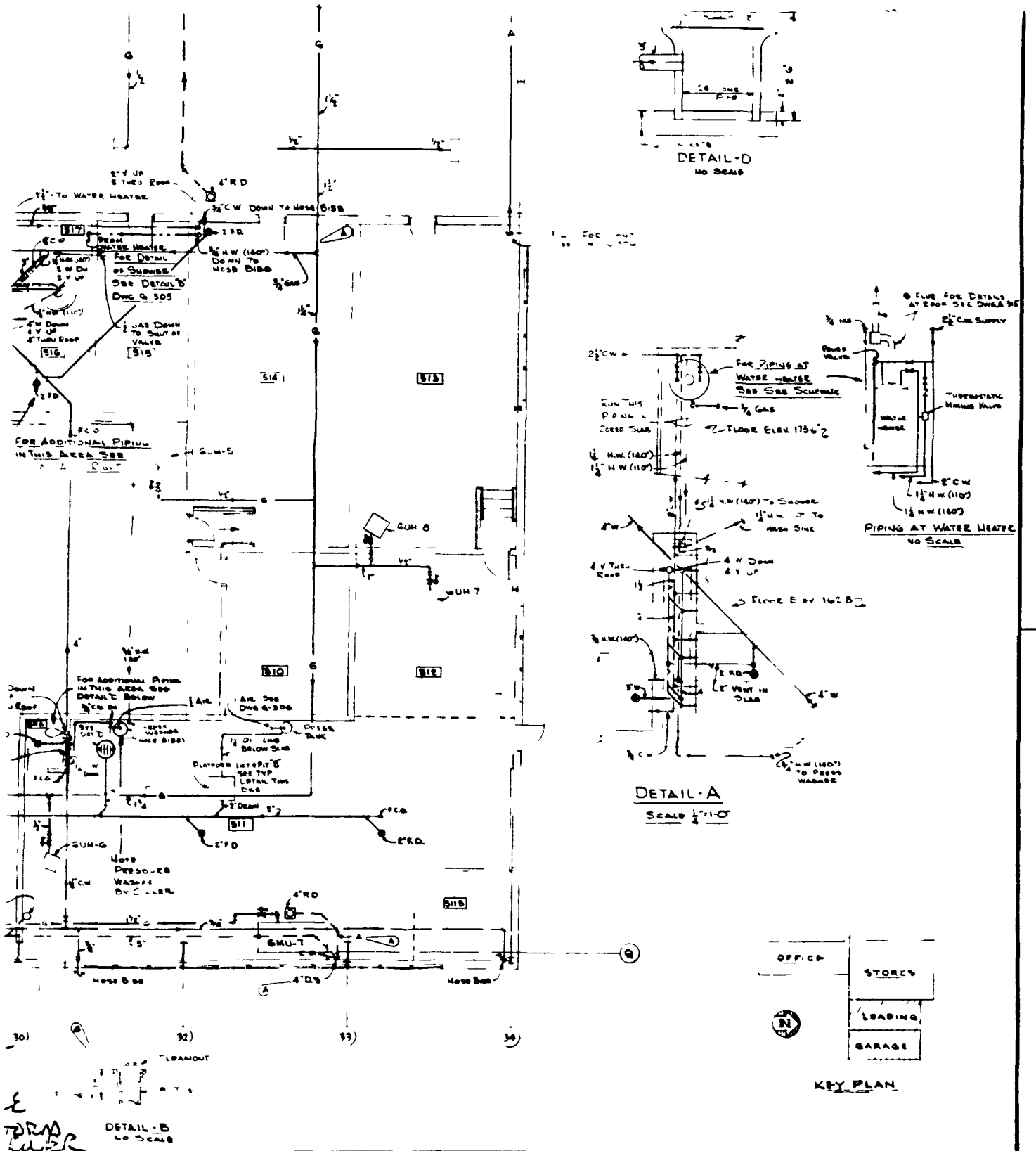
Attachment		Attachments
7A	Drawings	M-3084-G2 (1964 Revision)
7B	Drawing	M-3084-G304 (1964 Revision)
7C	Drawing	M-3084-G306 (1964 Revision)

K00004704



...RED UNDER RESPONSIBLE SUPERVISION OF D. SCHLUCKEBIER PROFESSIONAL REGISTRATION NO. 10222 PROFESSIONAL REGISTRATION NO. AT OFFICES OF ...ONWEALTH ASSOCIATES INC. ...ASHINGTON AVE. JACKSON MICH	OWNER AND LOCATION KALAMAZOO SERVICE CENTER CONSUMERS POWER CO. JACKSON MICH	TITLE GRADING & DRAINAGE	
		JOB NO. 1-133	DRAWING NO. M-3084 - G2	SHEET 1	REV. F

K00004705

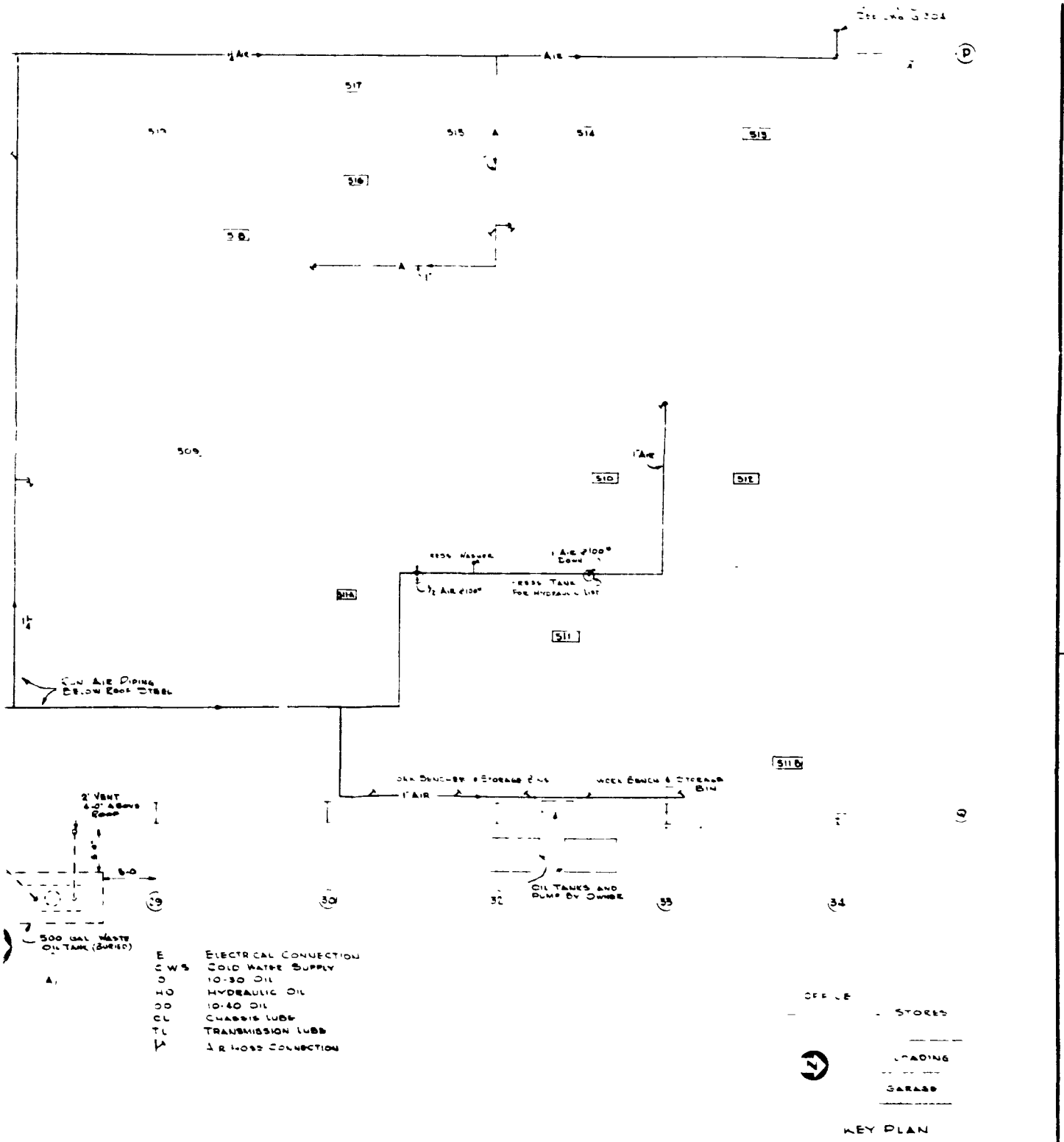


(SEAL)	PREPARED UNDER RESPONSIBLE SUPERVISION OF	OWNER AND LOCATION	TITLE
	P D SCHLUCKEBIER MICHIGAN PROFESSIONAL REGISTRATION NO. 10222 PROFESSIONAL REGISTRATION NO. AT OFFICES OF COMMONWEALTH ASSOCIATES INC. 208 E WASHINGTON AVE., JACKSON, MICH.	KALAMAZOO SERVICE CENTER	LOADING AREA AND GARAGE PLUMBING

JOB NO.	DRAWING NO.	SHEET	REV.
1-133-2	M-3084 - G304	1	C

INSP'D		PRINTS SENT OUT	AP
BY			

K00004706



SEAL	PREPARED UNDER RESPONSIBLE SUPERVISION OF	OWNER AND LOCATION	TITLE			
	[illegible] GABBER MICHIGAN PROFESSIONAL REGISTRATION NO [illegible] PROFESSIONAL REGISTRATION NO [illegible] AT OFFICES OF COMMONWEALTH ASSOCIATES INC 209 E WASHINGTON AVE JACKSON MICH	KALAMAZOO SERVICE CENTER CONSUMERS POWER CO JACKSON MICH	GARAGE PIPING			
			JOB NO. 1-133-2	DRAWING NO. M-3084-G306	SHEET 1	REV. C

INSPD BY

PRINTS SENT OUT

K00004707

KAZOO S.C.

To RBEldridge, Kalamazoo

From EJThallman, H-807A, Jackson EJT

Date August 12, 1986

Subject REPORT ON TRANSFORMERS SERVING COMPANY OFFICE AND SERVICE CENTER FACILITIES

CC DGMcClelland, H-818B
LLJones, Kalamazoo
RWKoerkel, H-825
BWRasher, P-12-103
ACSchuknecht, M-462A

CONSUMERS POWER COMPANY

Internal Correspondence

In late 1984 and early 1985, the GO Facility Department requested information from the Regions and General Office on all transformers serving our office and service buildings, or on other transformers that might be located on office or service center sites which would become the responsibility of facility personnel in the event of a failure (fire or leakage). This information was requested in anticipation of proposed new federal regulations on PCB transformers and to update information in our files.

The Federal Regulations which went into effect August 16, 1985, applied to PCB transformers (above 500 parts per million) only. A copy of a synopsis of the new regulations prepared by B W Rasher of the Environmental Department, is attached for your reference.

Based on the information we have received to date, and on previous records, we can report that we do not have any PCB transformers currently identified on our sites or serving our office or service buildings.

Since 1983, a considered effort has been made to eliminate not only PCB, but PCB contaminated transformers (transformers with a tested PCB level of between 50 and 500 parts per million) which have been reported to us and over which Facilities would have some degree of control or clean-up responsibility in the event of a failure. The question may be asked "why are we concerned with PCB containimated transformers when Federal regulations do not consider them to be risks to public health". There are several reasons why we have been working to eliminate PCB contaminated transformers from our sites.

1. Research conducted by EPRI shows potential damage by contamination as a result of incomplete combustion in case of a transformer fire. Conversely, chances of contamination from a fire involving transformers of less than 50 parts per million are nil.

2. It has been estimated that clean-up costs for a leak from PCB contaminated transformer would run as high as $5,000 versus clean-up costs of, perhaps, $1,000 for a leak from a non-contaminated transformer.

3. In 1983, a management decision was made that we did not want to risk possible contamination and that we wanted to be out from under any regulations concerning PCB transformers serving Facilities sites.

K00004708

IC0886-0007F-F004

All of the above, notwithstanding, we are forwarding herewith a copy of our latest information dated August 12, 1986 on Facilities related transformers in your Regions. As you can see, all transformers that have been reported to us show PCB test levels of less than 50 parts per million and are, therefore, considered non-contaminated.

Southwestern

Building	Transformer Manufacturer	RATING Ident Number	KVA	Secondary Voltage	Transformer Type	Transformer Owner	Lab Test PCB Level PPM	Remarks
Kalamazoo	Line Material	F2280401	750	480/277	Pad Mt Oil	Building	9	
Battle Creek	Westinghouse	C40881-1-1	1500	480/277	Pad Mt Oil	Building	0	
Albion	Kuhlman			120/240	Pole	Utility	5	
Allegan	McG Edison	72ZD929001	100	120/240	Pad Mt Oil	Building	5	
Allegan Annex	McG Edison	69Z2878001	75	480/277	Pad Mt Oil	Building	5	
Bronson	None					Utility		Off-Site
Hastings	Westinghouse	78J808263	75	120/208	Pad	Building	5	
Marshall	GE	F463516604		120/240	Pad Mt Oil	City Marshall	5	

K000004710

FENNVILLE OFFICE
VCCappell,

INFORMATION REQUESTS

1. Identify all persons consulted in the preparation of your responses to these Information Requests.

Anthony M. Aurino,	Environmental Compliance Consultant, Business Services Dept
Verne C. Cappell:	Senior Portfolio Mgr, Business Services Dept
Stacy M. Lahr	Technical Assistant, Business Services Dept

2. Identify all documents consulted, examined, or referred to in the preparation of your responses to these Information Requests, and provide copies of all such documents. If, in lieu of or along with a textual response to any specific Request, you refer to a document that you believe contains information responsive to that Request, you must identify the specific location (page number, paragraph number) in the document where responsive information can be located.

   See General Objections

3. If you have reason to believe that there may be any person able to provide a more detailed or complete response to any Information Request, or who may be able to provide additional responsive documents, identify any and all such persons.

   None Known

K00004711

4. Identify and generally describe each Consumers Energy facility at or near the Site, as that term is define in Attachment 3 (Definitions). For each Consumers Energy facility, provide:

   a. the address of the facility;

      Consumers Power Company
      Fennville Office
      W. Walter Street
      Fennville, MI 49408

   b. past/present EPA ID numbers, RCRA numbers and NPDES numbers for the facility; and

      None known.

   c. the current owner of the facility

      Consumers sold the property to the City of Fennville by land contract on May 24, 1970. On the same date, the Company sold its land contract interest to the Citizens Trust and Savings Bank of South Haven. We do not know whether the City continues to own the property.

5. Identify all prior owners and operators of each facility and their dates of ownership and/or operation.

   The property was acquired by Iosco Land Company (A subsidiary of Consumers Power Company) on May 21, 1935, from the heirs of John F. Barron, deceased.

6. Provide copies of all local, state, and federal environmental permits ever granted for each facility or any part thereof (e.g., RCRA permits, NPDES permits, etc).

   None known

7. For each facility, identify and describe all types of monitoring reports, monitoring data, and documentation sent to or received by federal or state regulatory authorities regarding any materials containing hazardous substances used, generated, stored, treated or disposed at or from the facility.

   None known.

K00004712

8. Identify and describe the nature of all past and current operations and production processes at each facility. Identify, if available, all current and previous SIC codes associated with each facility.

This was an office facility. It is believed that the primary functions were utility bill processing and collection, customer contact and information services, electric utility crew working and reporting field headquarters and general administrative functions. SIC Code 4911.

9. Identify each product produced at the facility. Further identify the mass quantity of each product produced on an annual basis.

The Fennville Office was not a production facility.

10. Identify and describe any and all activities or efforts to take production facilities out of operation, and include the dates of each such activity or effort.

The Fennville Office was not a production facility. It was closed and sold to the City of Fennville on May 24, 1970.

11. For each facility, identify and provide any data, estimates, analyses or other information regarding any material used, treated, stored or disposed that contained or may have contained PCBs. To the extent available, provide all such data, estimates, analyses or other information on an annual basis.

Unknown.

12. For each facility, identify any data, estimates, analyses or other information regarding the concentration of PCBs in any material used, treated, stored or disposed there. To the extent available, provide all such data, estimates, analyses or other information on an annual basis.

Unknown.

13. To the extent not already provided in response to Request #11, provide the following information:

    a. the type and quantity, on an annual basis, of any oils or other lubricants used, treated, stored or disposed at each facility that are known or suspected to have contained PCBs;

       Unknown.

    b. the number, handling and disposition of all transformers and conductors at each facility; and

       Unknown

    c. data, analysis and other information regarding leaks, discharges or other releases from any transformer, conductor other equipment using oils or lubricants at each facility.

       Unknown

14. To the extent not already provided in response to Request #12, identify any data, estimates, analyses or other information regarding the concentration of PCBs in the materials identified in your response to Request #13.

    None known.

15. Describe the procedures used by you or anyone on your behalf to test PCB concentrations in the materials identified in your response to Requests #11 and #13, above. Include in your response test methods and dates.

    Unknown.

16. Describe the procedures followed by you, or anyone on your behalf, to prevent, mitigate or address the release or threat of release of any material identified in your response to Requests #11 and #13, above.

    The Company has standard practices for the prevention and response to releases.

17. Provide a figure delineating the groundwater flow direction on your property.

    No information available.

18. Identify the depth(s) to groundwater at your property.

    Unknown.

K00004714

19. For each production process at each facility, identify and describe each waste stream from its creation to final disposition.

The site is not a production facility.

20. For each facility, identify all past and present waste units (e.g., underground storage tanks, aboveground storage tanks, waste piles, landfills, surface impoundments, lagoons, dry wells, septic systems, floor drains, ponds, pits, machine pits, container storage areas). For each such waste unit identified, provide the following information:

a. The location of all past and present waste units whether currently in operation or not.

Unknown.

b. The type of unit (e.g., underground storage tank, lagoon, dry well, etc).

Unknown

c. The dates that the unit was in use.

Unknown

d. The purpose of past and/or present usage (e.g., storage, spill containment, waste disposal).

Unknown

e. The quantity and type(s) of materials (e.g., manufacturing materials, wastes, hazardous substances, pollutants and containments) located in each unit.

Unknown

f. If the unit is no longer in use, describe how was such unit closed, and what actions were taken to prevent or address potential or actual releases of waste constituents from the unit(s). Include all analytical data from such closure.

No information available.

21. For each facility, identify any data, estimates, analyses or other information about the presence of PCBs in each waste stream created. To the extent available, provide such information on an annual basis.

No information available.

22. For each facility, identify any data, estimates, analyses or other information about the concentration of PCBs in each waste stream created. To the extent available, provide such information on an annual basis.

No information available.

K00004715

23. For each facility, describe the procedures used by you, your predecessor(s), or anyone on behalf of you or a predecessor, to test the PCB concentration in each waste produced, stored, treated or disposed at that facility. Include in your response test methods, media tested, and dates.

It is unlikely that any PCB testing was done at the facility.

24. For each facility, identify each off-Site location at which wastes that contained or potentially contained PCBs were disposed. Further identify the dates of each such off-Site disposal, and the nature, quantity and PCB concentration of any such wastes.

None known.

25. For each facility, and for each waste produced, stored, treated or disposed at that facility:

a. identify the PCB concentration of any waste;

None known.

b. if the waste contained detectable concentration of PCBs, describe each occasion on which a release of such waste occurred or threatened to occur; and

None known.

c. describe the procedures and measures taken by you, or anyone on your behalf, to prevent, mitigate or address the release or threat of release of PCBs or other hazardous materials.

The Company has standard practices for the prevention and response to releases. However, no PCB releases are known to have occurred at this facility.

26. For each release described in response to Request #25 above, describe the quantity of PCB-contaminated wastes that were released or threatened to be released, and state whether any PCBs contained in the wastes contributed to the presence, or threatened to contribute to the presence, of PCBs in the Kalamazoo River.

There were no known releases of PCB-contaminated waste at the facility.

27. For each facility, identify any data, estimates, analyses or other information about the history of flooding, or any other infiltration of water, from the Kalamazoo River.

None known.

28. To the extent not provided in your response to Request #19, describe each wastewater stream, waste oil stream, and wastewater/waste oil mixture stream at each facility, from its creation in the production process to final discharge point. In your response include a complete description of the fate of any wastewater stream, waste oil stream, and wastewater/waste oil mixture stream produced at each facility (e.g., on-site treatment, discharge to a POTW, discharge to a storm sewer outfall, direct discharge to the Kalamazoo River).

There are no production processes at the site.

Other waste streams are unknown. This is believed to have been primarily or entirely an office.

29. To the extent not provided in response to Requests #19 and #28, identify the quantity of all (a) wastewater, (b) waste oil, and (c) wastewater/waste oil mixture produced, on a monthly basis, from each production process at each facility.

There are no production processes at the facility.

Other wastes are unknown.

30. To the extent not provided in response to Requests #21 and #22, identify any data, estimates, analyses or other information about the presence and/or concentration of PCBs in the wastewater, waste oil and wastewater/waste oil mixture produced from each production process at each facility. To the extent available, provide such information on a monthly basis.

None known.

31. For each facility, identify any data, estimates, analyses or other information regarding the effectiveness of the treatment system(s) at that facility, if any, to remove PCBs from each wastewater stream, waste oil stream and wastewater/waste oil mixture stream.

None known.

32. Identify any data, estimates, analyses or other information regarding procedures and measures taken by you, or by anyone on your behalf, to prevent, mitigate or address the release or threat of release of PCBs from wastewater, waste oils, or wastewater/waste oil mixtures to the Kalamazoo River.

The Company has standard practices for the prevention and response to releases. However, no PCB releases are known to have occurred at this facility.

K00004717

33. For any POTW identified in response to Request #28, provide, for each facility and on a monthly basis, all information regarding the amount of wastewater, waste oil and wastewater/waste oil mixture discharged to a POTW, the concentration of PCBs in the wastewater, waste oil and wastewater/waste oil mixtures discharged to the POTW from that facility and, to the extent such information is available, the PCB concentration in the effluent from the POTW.

Not applicable.

34. For each facility, identify each pipe, conduit, storm sewer, sewer line or other outfall that, directly or indirectly, terminates in the Kalamazoo River or its tributaries, past or present, into which treated, untreated or bypassed wastewater, waste oil, or any other waste (including wastewater/waste oil mixtures), from that facility was discharged. Include a figure identifying the source and location of each pipe, conduit, storm sewer, sewer line or other outfall.

None known.

35. For each pipe, conduit, storm sewer, sewer line or other outfall identified in your response to Request #34, identify dates of use and each outfall's source at the facility. Further provide, on a monthly basis, the volume of wastewater, waste oil or other waste (including wastewater/waste oil mixtures) discharged from the facility into each pipe, conduit, storm sewer, sewer line or other outfall.

Not applicable.

36. For each pipe, conduit, storm sewer, sewer line or other outfall identified in response to Request #34, identify all influent and effluent quality data. Include to the extent such information is available, the PCB concentration of all influent and effluent, on a monthly basis.

Not applicable

37. For each pipe, conduit, storm sewer, sewer line or other outfall identified in response to Request #34, identify all bypasses or spills into the Kalamazoo River or its tributaries.

Not applicable

38. For each facility, identify any data, estimates, analyses or other information regarding the mass quantity of PCBs disposed into the Kalamazoo River as a result of wastewater, waste oil or wastewater/waste oil discharges from the production processes. To the extent available, provide such information on an annual basis.

The Fennville office was not a production facility. There was no known discharge of PCB into the Kalamazoo River from the facility.

39. For each facility, identify any data, analyses or other information regarding the nature and quantity of hazardous substances, including PCBs, in the sediments, soil, groundwater and surface water at that facility. Identify the concentration levels of PCBs for all samples collected at the facility or at any property abutting the facility.

None known.

40. For each facility, provide information regarding any environmental response activities involving or potentially involving PCBs or PCB-containing materials conducted at that facility, or on the Kalamazoo River, its tributaries, or other abutting property, at your direction or under your control. Indicate the date(s) on which such response activity was performed, what work was performed, the expenses incurred, the results of the response activity and, if it has not concluded, when the environmental response is expected to conclude.

None known.

41. Have you incurred any costs associated with the investigation, remediation or other action to address contamination at the Site or any portion thereof? If yes, identify all costs incurred by you through the date of this Information Request.

No.

Fennville office

1935 SOLD 1970

THIS INDENTURE, Made this 21st day of May in the year of our Lord one thousand nine hundred and thirty-five, Between J. Alden Barron, Administrator of the Estate of Alice E. Barron, deceased, and J. Alden Barron and Kate Barron, his wife, and Florence Du Vall, all of Fennville, Michigan, Alice B. Walsh of Kalamazoo, Michigan, and William B. Post, single, of Toledo, Ohio, being all the heirs at law of John F. Barron, deceased, parties of the first part, and Iosco Land Company, a Michigan corporation, party of the second part,

WITNESSETH, That the said parties of the first part, for and in consideration of the sum of One Dollar ($1.00) and other valuable considerations to them in hand paid by the said party of the second part, the receipt whereof is hereby confessed and acknowledged, do by these presents grant, bargain, sell, remise, release, alien and confirm unto the said party of the second part, and its successors and assigns, Forever, all that certain piece or parcel of land situate and being in the Village of Fennville, County of Allegan and State of Michigan, and described as follows, to-wit:

A parcel of land in the Northeast quarter (NE¼) of Section five (5), Township two (2) North, Range fifteen (15) West, described as beginning at a point two (2) rods South of the Southwest corner of Lot eight (8) of Cook and Barron's Addition to the Village of Fennville, according to the recorded plat thereof, running thence East twelve (12) rods to a point, thence South six (6) rods to a point, thence West twelve (12) rods to a point, thence North six (6) rods to the place of beginning.

Second party agrees that if a building is erected on said land that said second party will construct and maintain a so-called cyclone type fence across the North line of said described land.

This instrument is executed by J. Alden Barron as Administrator of the Estate of Alice E. Barron, deceased, in pursuance of an order of the Probate Court for the County of Allegan in the State of Michigan, made on the 26th day of April, 1935.

Together with all and singular the hereditaments and appurtenances thereunto belonging or in anywise appertaining: TO HAVE AND TO HOLD the said premises, as herein described, with the appurtenances, unto the said party of the second part and to its successors and assigns, Forever. And the said parties of the first part, for themselves, their heirs, executors and administrators, do covenant, grant, bargain and agree to and with the said party of the second part, its successors and assigns, that at the time of the ensealing and delivery of these presents, they are well seized of the above granted premises in fee simple; that they are free from all encumbrances whatever and that they will, and their heirs, executors and administrators, shall WARRANT AND DEFEND the same against all lawful claims whatsoever.

K00004720

IN WITNESS HEREOF, the said parties of the first part have hereunto set their hands and seals the day and year first above written.

Signed, Sealed and Delivered in Presence of		
Witnesses to #1,2,3 & 4.	[illegible]	J. Alden Barron (L.S.) Administrator of the Estate of Alice E. Barron, deceased # 1
	Nelson M. Warren	J. Alden Barron (L.S.) # 2
#5	[illegible]	Kate Barron (L.S.) # 3
#5	[illegible]	Florence Du Vall (L.S.) # 4
#6	[illegible]	Alice B. Walsh (L.S.) # 5
#6	[illegible]	William B. [illegible] (L.S.) # 6

STATE OF MICHIGAN)
) ss.
County of Allegan)

On this 21 day of May in the year one thousand, nine hundred and thirty-five, before me, the subscriber, a Notary Public in and for said County, personally appeared J. Alden Barron, as Admr. J. Alden Barron & Kate Barron, his wife, & Florence Du Vall, to me known to be the same persons described in, and who executed the within instrument, who each acknowledged the same to be their free act and deed.

[illegible]
Notary Public, Allegan Co., Michigan

My commission expires August 16, 1938.

K00004721

STATE OF MICHIGAN)
) ss.
County of Allegan)

On this 22 day of May in the year one thousand, nine hundred and thirty-five, before me, the subscriber, a Notary Public in and for said County, personally appeared Alice B Walsh

to me known to be the same person described in, and who executed the within instrument, who does acknowledge the same to be her free act and deed.

Ernest A. Seymour
Notary Public, Allegan Co., Mich.
My commission expires May 8 1936

STATE OF MICHIGAN)
) ss.
County of _____)

On this _____ day of _____ in the year one thousand, nine hundred and thirty-five, before me, the subscriber, a Notary Public in and for said County, personally appeared _____

to me known to be the same person _____ described in, and who executed the within instrument, who _____ acknowledged the same to be _____ free act and deed.

Notary Public, _____ Co., Mich.

My commission expires _____

STATE OF Ohio)
) ss.
County of Lucas)

On this 28th day of May in the year one thousand, nine hundred and thirty-five, before me, the subscriber, a Notary Public in and for said County, personally appeared William B Post

to me known to be the same person _____ described in, and who executed the within instrument, who did acknowledge the same to be his free act and deed.

D T Sullivan
Notary Public, Lucas Co., Ohio
My commission expires 10-27-1937

D. T. SULLIVAN
My Commission expires 10-27-1937

K00004722

T 68-155

LAND CONTRACT

THIS CONTRACT, Made this 24th day of June, 1970, Between CONSUMERS POWER COMPANY, a Michigan corporation, 212 West Michigan Avenue, Jackson, Michigan 49201, (successor by merger to Consumers Power Company, a Maine corporation), herein called first party, and the CITY OF FENNVILLE, a municipal corporation in Allegan County, Fennville, Michigan, herein called second party,

1. Said first party in consideration of the sum of Ten Thousand Dollars ($10,000.00) to be paid by second party to first party and of the covenants to be performed by second party, as hereinafter expressed, hereby agrees to sell to second party all that certain piece or parcel of land situate in the City of Fennville, County of Allegan, State of Michigan, described as follows:

> A parcel of land in the NE 1/4 of Section 5, T2N, R15W, described as beginning at a point 2 rods South of the Southwest corner of Lot 8 of Cook and Barron's Addition to the Village (now City) of Fennville, according to the recorded plat thereof, running thence East 12 rods, thence South 6 rods, thence West 12 rods, thence North 6 rods to the place of beginning.

2. Second party in consideration of the covenants herein made by first party, agrees to purchase from first party the above-described premises and to pay therefor to first party or its legal representatives, at Jackson, Michigan, the sum of Ten Thousand Dollars ($10,000.00), as follows: The sum of Three Thousand Three Hundred Dollars ($3,300.00) shall be paid to first party upon the execution hereof and the balance of Six Thousand Seven Hundred Dollars ($6,700.00) shall be paid within a period of five (5) years from and after the date hereof in ten (10) semi-annual installments of Six Hundred Seventy Dollars ($670.00) or more, plus interest at six percent (6%) per annum on the unpaid balance, until the total sum of Six Thousand Seven Hundred Dollars ($6,700.00), plus interest as above stated, has been paid in full. Principal or interest not paid when due shall bear interest until paid, at seven percent (7%) per annum.

3. It is mutually understood and agreed that the above-described premises is encumbered by a mortgage, dated September 1, 1945, now held by First National City Bank, trustee, as amended and supplemented. Upon receipt of the down payment herein provided, first party agrees to apply for a release and discharge of said premises from said mortgage. In the event first party is unable to secure such release and discharge within one hundred twenty (120) days from the date hereof or within such additional time as the parties hereto agree upon in writing, then this contract shall cease and terminate without further notice or action and all moneys paid to first party on this contract shall be refunded to second party, less a reasonable sum, which the parties hereto fix at One Dollar ($1.00) per day from the date hereof until possession shall be actually restored to first party, and less cost and expense as first party may incur in obtaining possession. Said parties agree in the event first party is unable to secure such mortgage release and discharge within the time herein provided, to forthwith upon the expiration of such time quit, surrender and deliver up possession of said premises to first party, without notice or demand therefor, and such possession of said second party after the expiration of such time shall be deemed that of a trespasser.

4. Second party shall keep all buildings now on, or that may hereafter be placed on said premises, insured in the name of Consumers Power Company and second party as an additional insured, and in manner and amount and by insurers approved by Consumers Power Company, and leave the policy with Consumers Power Company; and in case of loss, the insurance, unless by mutual agreement used to repair or rebuild, shall be paid to Consumers Power Company and be endorsed on this contract to the extent of the amount unpaid thereon, and the balance, if any, shall belong and be paid to second party.

K00004723

5. Second party shall enter said premises for taxation in its name and shall well and faithfully pay when due all taxes and assessments, ordinary and extraordinary, that may for any purpose be levied or assessed on said premises, and shall not commit or suffer any other person to commit any waste or damage to said premises or the appurtenances thereof. Should second party fail to pay any tax or assessment when due, or to keep said buildings insured, first party may pay the same and have the buildings insured, and the amounts thus expended shall be a lien on said premises, be added to the amount then unpaid hereon, be due at once, and bear interest until paid at seven percent (7%) per annum.

6. First party further agrees that upon the full performance by second party of all covenants and agreements by second party to be performed, and upon the payment to first party of the several sums of money above mentioned, in time and manner and at the place mentioned, that subject to the provisions of Paragraph 3 hereof, first party will execute and deliver to second party a Quitclaim Deed, and thereby convey to second party all of first party's title and interest in the premises above described.

7. All buildings and improvements now on, or that shall be placed or made on said premises, shall remain thereon as security for the performance by second party of this contract; and should default be made, and said contract be forfeited, said buildings and improvements and all payments made on said contract shall be forfeited to first party as stipulated damages for nonperformance of this contract, or first party may at its option declare all sums unpaid immediately due and payable and enforce the collection thereof at law and make conveyance as aforesaid.

8. Second party shall not assign or transfer this contract, or lease or sublet said premises, or the buildings thereon, or any part thereof, or add to or change any buildings thereon without the previous written assent of first party hereto endorsed hereon.

9. It is further mutually agreed that second party may take possession of said premises on the date hereof and remain thereon as long as it shall perform all the covenants and agreements herein mentioned on its part to be performed, and no longer; and if it shall at any time hereafter, violate or neglect to fulfill any of said covenants or agreements, it shall forfeit all right or claim under this contract, and be liable to be removed from said premises in the same manner as is provided by law for the removal of a tenant that holds over premises contrary to the terms of his lease, and notice to quit and of forfeiture are each hereby waived. And it shall be lawful for first party at any time after such default, to sell and convey said premises, or any part thereof, to any other person without becoming liable to refund any part of the money received on this contract, or for any damages on account of such sale. And it is hereby expressly understood and agreed that time shall be deemed as of the very essence of this contract, and that unless the same shall, in all respects, be complied with by second party, at the respective times and in the manner above limited and specified, second party shall lose and be debarred from all rights, remedies and actions, both at law and in equity, upon or under this contract.

The covenants, conditions and agreements herein contained shall apply to and bind the successors and assigns of the respective parties hereto.

K00004724

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in duplicate the day and year first above written.

Signed, and Delivered
in Presence of:

Lois C. Barnes

Lois J. Barnes

Helen R. Lehr

Helen R. Lehr

Wm P. Clement

A. H. Zell

CONSUMERS POWER COMPANY

By R. C. Youngdahl

R. C. Youngdahl, Senior Vice President

CITY OF FENNVILLE

By Eugene Bender
Mayor

By Janet L. Morse
City Clerk

APPROVED AS TO FORM

LEGAL DEPARTMENT

STATE OF MICHIGAN)
) SS.
COUNTY OF JACKSON)

The foregoing instrument was acknowledged before me this 24th day of June, 1970, by R. C. Youngdahl Senior Vice President of CONSUMERS POWER COMPANY, a Michigan corporation, on behalf of the corporation.

Stanley F. Kent

Notary Public, Jackson County, Michigan

My commission expires February 21, 1971

K00004725

VENDOR'S ASSIGNMENT OF LAND CONTRACT

KNOW ALL MEN BY THESE PRESENTS, That CONSUMERS POWER COMPANY, chigan corporation, 212 West Michigan Avenue, Jackson, Michigan, t party, for and in consideration of the sum of Six Thousand Seven red Dollars ($6,700.00) in hand paid by CITIZENS TRUST AND SAVINGS OF SOUTH HAVEN, Fennville Branch, Fennville, Michigan, second r, on or before the execution and delivery of this instrument, the ipt whereof is hereby acknowledged, has granted, sold, assigned, sferred and set over and by these presents does grant, bargain, , assign, transfer and set over unto second party a certain land act, bearing date the 24th day of June, 1970, between Consumers Power Company, a Michigan corporation, as vendor, he City of Fennville, a municipal corporation, as vendee, and does y authorize and appoint second party its true and lawful attorney, ocable in its name, or otherwise, but at second party's proper and charges, to have, use and take all lawful ways and means for ecovery of the sum or sums of money now due and owing, or here- to become due and owing, upon said land contract; and in case of nt to give deed or other sufficient discharge, as full as it might uld do if these presents were not made; and it does hereby for f and its successors promise and agree to and with the said second , that there is now due upon the said land contract the sum of housand Seven Hundred Dollars ($6,700.00) and that it has good, and lawful authority to grant, bargain and sell the same.

IN WITNESS WHEREOF, first party has caused this instrument executed in its corporate name by its duly authorized officer 24th day of June, 1970.

SSES:

CONSUMERS POWER COMPANY

C. Barnes

By R. C. Youngdahl

R. C. Youngdahl
Senior Vice President

R. Lehr

APPROVED AS TO FORM

OF MICHIGAN)
) SS.
OF JACKSON)

The foregoing instrument was acknowledged before me this day of June, 1970, by R. C. Youngdahl, Vice President of CONSUMERS POWER COMPANY, a Michigan corpo- , on behalf of the corporation.

Stanley C. Kent
Notary Public, Jackson County, Michigan

My commission expires February 21, 1971

K00004726

PLAINWELL OFFICE
VCCappell,

INFORMATION REQUESTS

1. Identify all persons consulted in the preparation of your responses to these Information Requests.

Anthony M. Aurino,	Environmental Compliance Consultant, Business Services Dept
Verne C. Cappell:	Senior Portfolio Mgr, Business Services Dept
Stacy M. Lahr	Technical Assistant, Business Services Dept

2. Identify all documents consulted, examined, or referred to in the preparation of your responses to these Information Requests, and provide copies of all such documents. If, in lieu of or along with a textual response to any specific Request, you refer to a document that you believe contains information responsive to that Request, you must identify the specific location (page number, paragraph number) in the document where responsive information can be located.

   See General Objections

3. If you have reason to believe that there may be any person able to provide a more detailed or complete response to any Information Request, or who may be able to provide additional responsive documents, identify any and all such persons.

   None Known

K00004727

4. Identify and generally describe each Consumers Energy facility at or near the Site, as that term is define in Attachment 3 (Definitions). For each Consumers Energy facility, provide:

   a. the address of the facility;

      Consumers Power Company
      Plainwell Service Center
      Jersey Street & Bridge Street
      Plainwell, MI 49080

   b. past/present EPA ID numbers, RCRA numbers and NPDES numbers for the facility; and

      None known.

   c. the current owner of the facility

      Consumers sold the property to the City of Plainwell, Michigan on May 30, 1973. We do not know whether the City continues to own the property.

5. Identify all prior owners and operators of each facility and their dates of ownership and/or operation.

   The property was formerly part of the property which served Plainwell Dam #2. See the Company's response with respect to Plainwell Dam #2 for more information. When the Company sold its interest in the dam to the City of Plainwell in 1966, it retained a small office building until May 30, 1973, when it sold that office building and property to the City of Plainwell.

6. Provide copies of all local, state, and federal environmental permits ever granted for each facility or any part thereof (e.g., RCRA permits, NPDES permits, etc).

   None known

7. For each facility, identify and describe all types of monitoring reports, monitoring data, and documentation sent to or received by federal or state regulatory authorities regarding any materials containing hazardous substances used, generated, stored, treated or disposed at or from the facility.

   None known.

K00004728

8. Identify and describe the nature of all past and current operations and production processes at each facility. Identify, if available, all current and previous SIC codes associated with each facility.

This was an office facility. It is believed that the primary functions were utility bill processing and collection, customer contact and information services, electric utility crew working and reporting field headquarters and general administrative functions. SIC Code 4911.

9. Identify each product produced at the facility. Further identify the mass quantity of each product produced on an annual basis.

The Plainwell Office was not a production facility.

10. Identify and describe any and all activities or efforts to take production facilities out of operation, and include the dates of each such activity or effort.

The Plainwell Office was not a production facility. It was closed and sold to the City of Plainwell on May 30, 1973.

11. For each facility, identify and provide any data, estimates, analyses or other information regarding any material used, treated, stored or disposed that contained or may have contained PCBs. To the extent available, provide all such data, estimates, analyses or other information on an annual basis.

Unknown.

12. For each facility, identify any data, estimates, analyses or other information regarding the concentration of PCBs in any material used, treated, stored or disposed there. To the extent available, provide all such data, estimates, analyses or other information on an annual basis.

Unknown.

K00004729

13. To the extent not already provided in response to Request #11, provide the following information:

    a. the type and quantity, on an annual basis, of any oils or other lubricants used, treated, stored or disposed at each facility that are known or suspected to have contained PCBs;

    Unknown.

    b. the number, handling and disposition of all transformers and conductors at each facility; and

    Unknown

    c. data, analysis and other information regarding leaks, discharges or other releases from any transformer, conductor other equipment using oils or lubricants at each facility.

    Unknown

14. To the extent not already provided in response to Request #12, identify any data, estimates, analyses or other information regarding the concentration of PCBs in the materials identified in your response to Request #13.

    None known.

15. Describe the procedures used by you or anyone on your behalf to test PCB concentrations in the materials identified in your response to Requests #11 and #13, above. Include in your response test methods and dates.

    Unknown.

16. Describe the procedures followed by you, or anyone on your behalf, to prevent, mitigate or address the release or threat of release of any material identified in your response to Requests #11 and #13, above.

    The Company has standard practices for the prevention and response to releases.

17. Provide a figure delineating the groundwater flow direction on your property.

    No information available.

18. Identify the depth(s) to groundwater at your property.

    Unknown.

K00004730

19. For each production process at each facility, identify and describe each waste stream from its creation to final disposition.

The site is not a production facility.

20. For each facility, identify all past and present waste units (e.g., underground storage tanks, aboveground storage tanks, waste piles, landfills, surface impoundments, lagoons, dry wells, septic systems, floor drains, ponds, pits, machine pits, container storage areas). For each such waste unit identified, provide the following information:

a. The location of all past and present waste units whether currently in operation or not.

Unknown.

b. The type of unit (e.g., underground storage tank, lagoon, dry well, etc).

Unknown

c. The dates that the unit was in use.

Unknown

d. The purpose of past and/or present usage (e.g., storage, spill containment, waste disposal).

Unknown

e. The quantity and type(s) of materials (e.g., manufacturing materials, wastes, hazardous substances, pollutants and containments) located in each unit.

Unknown

f. If the unit is no longer in use, describe how was such unit closed, and what actions were taken to prevent or address potential or actual releases of waste constituents from the unit(s). Include all analytical data from such closure.

No information available.

21. For each facility, identify any data, estimates, analyses or other information about the presence of PCBs in each waste stream created. To the extent available, provide such information on an annual basis.

No information available.

22. For each facility, identify any data, estimates, analyses or other information about the concentration of PCBs in each waste stream created. To the extent available, provide such information on an annual basis.

No information available.

23. For each facility, describe the procedures used by you, your predecessor(s), or anyone on behalf of you or a predecessor, to test the PCB concentration in each waste produced, stored, treated or disposed at that facility. Include in your response test methods, media tested, and dates.

It is unlikely that any PCB testing was done at the facility.

24. For each facility, identify each off-Site location at which wastes that contained or potentially contained PCBs were disposed. Further identify the dates of each such off-Site disposal, and the nature, quantity and PCB concentration of any such wastes.

None known.

25. For each facility, and for each waste produced, stored, treated or disposed at that facility:

a. identify the PCB concentration of any waste;

None known.

b. if the waste contained detectable concentration of PCBs, describe each occasion on which a release of such waste occurred or threatened to occur; and

None known.

c. describe the procedures and measures taken by you, or anyone on your behalf, to prevent, mitigate or address the release or threat of release of PCBs or other hazardous materials.

The Company has standard practices for the prevention and response to releases. However, no PCB releases are known to have occurred at this facility.

26. For each release described in response to Request #25 above, describe the quantity of PCB-contaminated wastes that were released or threatened to be released, and state whether any PCBs contained in the wastes contributed to the presence, or threatened to contribute to the presence, of PCBs in the Kalamazoo River.

There were no known releases of PCB-contaminated waste at the facility.

27. For each facility, identify any data, estimates, analyses or other information about the history of flooding, or any other infiltration of water, from the Kalamazoo River.

None known.

28. To the extent not provided in your response to Request #19, describe each wastewater stream, waste oil stream, and wastewater/waste oil mixture stream at each facility, from its creation in the production process to final discharge point. In your response include a complete description of the fate of any wastewater stream, waste oil stream, and wastewater/waste oil mixture stream produced at each facility (e.g., on-site treatment, discharge to a POTW, discharge to a storm sewer outfall, direct discharge to the Kalamazoo River).

There are no production processes at the site.

Other waste streams are unknown. This is believed to have been primarily or entirely an office.

29. To the extent not provided in response to Requests #19 and #28, identify the quantity of all (a) wastewater, (b) waste oil, and (c) wastewater/waste oil mixture produced, on a monthly basis, from each production process at each facility.

There are no production processes at the facility.

Other wastes are unknown.

30. To the extent not provided in response to Requests #21 and #22, identify any data, estimates, analyses or other information about the presence and/or concentration of PCBs in the wastewater, waste oil and wastewater/waste oil mixture produced from each production process at each facility. To the extent available, provide such information on a monthly basis.

None known.

31. For each facility, identify any data, estimates, analyses or other information regarding the effectiveness of the treatment system(s) at that facility, if any, to remove PCBs from each wastewater stream, waste oil stream and wastewater/waste oil mixture stream.

None known.

32. Identify any data, estimates, analyses or other information regarding procedures and measures taken by you, or by anyone on your behalf, to prevent, mitigate or address the release or threat of release of PCBs from wastewater, waste oils, or wastewater/waste oil mixtures to the Kalamazoo River.

The Company has standard practices for the prevention and response to releases. However, no PCB releases are known to have occurred at this facility.

K00004733

33. For any POTW identified in response to Request #28, provide, for each facility and on a monthly basis, all information regarding the amount of wastewater, waste oil and wastewater/waste oil mixture discharged to a POTW, the concentration of PCBs in the wastewater, waste oil and wastewater/waste oil mixtures discharged to the POTW from that facility and, to the extent such information is available, the PCB concentration in the effluent from the POTW.

Not applicable.

34. For each facility, identify each pipe, conduit, storm sewer, sewer line or other outfall that, directly or indirectly, terminates in the Kalamazoo River or its tributaries, past or present, into which treated, untreated or bypassed wastewater, waste oil, or any other waste (including wastewater/waste oil mixtures), from that facility was discharged. Include a figure identifying the source and location of each pipe, conduit, storm sewer, sewer line or other outfall.

None known.

35. For each pipe, conduit, storm sewer, sewer line or other outfall identified in your response to Request #34, identify dates of use and each outfall's source at the facility. Further provide, on a monthly basis, the volume of wastewater, waste oil or other waste (including wastewater/waste oil mixtures) discharged from the facility into each pipe, conduit, storm sewer, sewer line or other outfall.

Not applicable.

36. For each pipe, conduit, storm sewer, sewer line or other outfall identified in response to Request #34, identify all influent and effluent quality data. Include to the extent such information is available, the PCB concentration of all influent and effluent, on a monthly basis.

Not applicable

37. For each pipe, conduit, storm sewer, sewer line or other outfall identified in response to Request #34, identify all bypasses or spills into the Kalamazoo River or its tributaries.

Not applicable

38. For each facility, identify any data, estimates, analyses or other information regarding the mass quantity of PCBs disposed into the Kalamazoo River as a result of wastewater, waste oil or wastewater/waste oil discharges from the production processes. To the extent available, provide such information on an annual basis.

The Plainwell office was not a production facility. There was no known discharge of PCB into the Kalamazoo River from the facility.

K00004734

39. For each facility, identify any data, analyses or other information regarding the nature and quantity of hazardous substances, including PCBs, in the sediments, soil, groundwater and surface water at that facility. Identify the concentration levels of PCBs for all samples collected at the facility or at any property abutting the facility.

None known.

40. For each facility, provide information regarding any environmental response activities involving or potentially involving PCBs or PCB-containing materials conducted at that facility, or on the Kalamazoo River, its tributaries, or other abutting property, at your direction or under your control. Indicate the date(s) on which such response activity was performed, what work was performed, the expenses incurred, the results of the response activity and, if it has not concluded, when the environmental response is expected to conclude.

None known.

41. Have you incurred any costs associated with the investigation, remediation or other action to address contamination at the Site or any portion thereof? If yes, identify all costs incurred by you through the date of this Information Request.

No.

T No. 65-189 June 27, 1967

1915
Sold 100
68

PLAINWELL HYDRO PLANT AND GARAGE
Sale of Land and Building - City of Plainwell

1. Description of Land as Originally Acquired:

Please refer to Tract No. 1-H-62.

2. Title History:

Please refer to Paragraph No. 1 above.

3. Original Cost:

The land described in this sale is charged to Electric Plant in Service, Account 101.100-389.000, General Plant, Tract No. 1-H-62, Plainwell Service Center (Location 150906) in the amount of $808.44.

The cement block garage was retired on WO 1522, JE 531, March 1967 at the depreciated original cost amount of $1,478.00.

4. Description of Land Sold:

See attached instrument.

5. Sold To:

The City of Plainwell by a Quitclaim Deed dated July 1, 1966.

6. Sale Price:

$2,500.00.

7. Original Cost of the Land Sold:

The original cost of the land sold is $808.44. However, the Consumers Power Company did retain electric distribution rights in the amount of $100.00 which will be transferred to Electric Plant in Service, Account 101.100-360.200, Distribution System Right of Way.

Therefore, the original cost of the land sold is $808.44 less $100.00 or $708.44.

K00004736

To: Mr. J. J. Zaborowski
Michigan Avenue

COPY

Account No. 186.937-9
T No. 65-189

Jackson, Michigan
June 27, 1967

PLAINWELL HYDRO PLANT AND GARAGE
Sale of Land and Building - City of Plainwell

Mr. C. R. Randolph
Michigan Avenue

Attention: Mr. D. D. Gutekunst

Attached please find Plant Accounting Report relative to the sale of a parcel of land and building in the City of Plainwell, Allegan County, Michigan, sold to the City of Plainwell by a Quitclaim Deed dated July 1, 1966.

Yours very truly,

S. C. Kent

SCK/mel
Attach.

CC: JJZaborowski

K00004737

263-189

THIS INDENTURE, made this [illegible] day of [illegible], 19[illegible], between CONSUMERS POWER COMPANY, a corporation duly authorized to do business in Michigan and having its principal office therein at 212 West Michigan Avenue, Jackson, Michigan, party of the first part, and the CITY OF PLAINWELL, a municipal corporation with offices at 323 East Bridge Street, Plainwell, Michigan, party of the second part,

WITNESSETH:

That the said party of the first part, for and in consideration of the sum of One Dollar ($1.00) and other valuable consideration to it in hand paid by the said party of the second part, the receipt whereof is hereby confessed and acknowledged, does by these presents grant, bargain, sell, remise, release and forever QUITCLAIM unto the said party of the second part and to its successors and assigns Forever, all those certain pieces or parcels of land situate in the City of Plainwell, County of Allegan and State of Michigan, known and described as follows:

Beginning on the S'ly bank of the Kalamazoo River at the intersection of said S'ly bank and a line drawn 8 feet W'ly of and parallel with the East line of the W 1/4 of Lot 26 of the Corporation Plat of the Village of Plainwell, according to the recorded plat thereof, running thence South along said parallel line to a point approximately 105 feet North of the South line of said Lot 26, being also the Northeast corner of the generator building, thence S'ly along the outside face of the E'ly wall of said generator building 19 feet more or less to the Southeast corner thereof, thence W'ly along the outside face of the S'ly wall of said generator building 9.3 feet to the NW'ly corner of the service building of Consumers Power Company, thence SW'ly along the outside face of the Northwesterly wall of said service building 2.5 feet, thence S'ly along the outside face of the West wall of said service building to the SE'ly face of the concrete retaining wall at the S'ly side of the fore bay of the race leading under the aforementioned generator building, thence SW'ly along the SE'ly face of said retaining wall to the E'ly edge of the main race, thence S'ly along the E'ly edge of said main race to the South line of Lot 27 of the Corporation Plat of the Village of Plainwell, extended W'ly, thence East along said extended South line of Lot 27, the South line of said Lot 27, and the South line of said Lot 26 to the East line of the W 1/4 of said Lot 26, thence North along said East line of the W 1/4 of said Lot 26 to the S'ly bank of the Kalamazoo River, thence SW'ly along said S'ly bank to the place of beginning. Being a part of the following described land: Lot 27 and the W 1/4 of Lot 26 of the Corporation Plat of the Village of Plainwell, and land bounded on the North by the Kalamazoo River, on the East by said Lot 27, and on the South and West by the mill race and waste weir.

Also Lot 125 of the Corporation Plat of the Village of Plainwell, according to the recorded plat thereof.

Also the easement and right to use as a party wall the wall common to the service building of first party located on the land herein conveyed and the generator building located on land adjacent thereto as such easement and

K00004738

right was reserved by first party in a conveyance to The Michigan Paper Company dated May 31, 1956.

Excepting and reserving to first party, its successors and assigns, Forever, the easement and right to erect, lay and maintain lines consisting of poles, wires, cables, conduits and other fixtures and appurtenances for the purpose of transmitting and distributing electricity and/or conducting a communication business on, over, under and across Lot 125 of the Corporation Plat of the Village of Plainwell, including all public highways upon or adjacent to said parcel of land. The route to be taken by said lines of poles, wires, cables and conduits on, over, under and across said land being more specifically described as follows:

In a NW'ly and SE'ly direction not more than 25 feet E'ly from the W'ly line of said Lot 125.

With full right and authority to first party, its successors, licensees, lessees or assigns and its and their agents and employees to enter at all times upon said land for the purpose of patrolling, constructing, repairing, removing, replacing, improving, enlarging and maintaining such wires, cables, conduits and poles and other supports with all necessary braces, guys, anchors, manholes and transformers and stringing thereon and supporting and suspending therefrom lines of wires, cables or other conductors for the transmission of electrical energy and/or communication and to trim, remove, destroy or otherwise control any trees and brush which may, in the opinion of first party, interfere or threaten to interfere with or be hazardous to the construction, operation and maintenance of said lines. It is understood that no buildings or other structures will be placed under such wires and/or over such cables without the written consent of first party. It is further understood that nonuse or a limited use of this easement by first party shall not prevent first party from later making use of the easement to the full extent herein reserved.

Also reserving to first party the full use, occupancy and possession of the land herein conveyed for a period of one (1) year from and after the date hereof.

Together with all and singular the hereditaments and appurtenances thereunto belonging or in anywise appertaining; TO HAVE AND TO HOLD the said premises unto the said party of the second part and to its successors and assigns to the sole and only proper use, benefit and behoof of said party of the second part, its successors and assigns, Forever.

IN WITNESS WHEREOF, said party of the first part has caused this instrument to be executed in its corporate name and by its duly authorized officers as of the day and year first above written.

Signed, Sealed and Delivered in the Presence of

Frances E. Schafer
Frances E. Schafer

Lucille M. Darling
Lucille M. Darling

CONSUMERS POWER COMPANY

APV'D AS TO FORM
R.E.K.
W.L.R.
J.V.B.

By W. C. Schmidt
W. C. Schmidt
Senior Vice President

Attest:

CORPORATE SEAL

W. R. Boris
W. R. Boris
Secretary

K00004739

STATE OF MICHIGAN)
) SS.
COUNTY OF JACKSON)

On this 1st day of July, 1966, before me, a Notary Public in and for said County, personally appeared W. C. Schmidt, to me personally known, who being by me duly sworn, did say that he is Senior Vice President of Consumers Power Company, the corporation named in and which executed the within instrument, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors; and said W. C. Schmidt acknowledged said instrument to be the free act and deed of said corporation.

Stanley C. Kent
Stanley C. Kent
Notary Public, Jackson County, Michigan

My commission expires March 27, 1967

K00004740

THIS INDENTURE, made this 7th day of July, A.D. 1932 BETWEEN R. E. Maurer and Elsie I. Maurer, his wife, parties of the first part, of Plainwell, Michigan, and LOWER PENINSULA POWER COMPANY of Plainwell, Michigan, a corporation organized and doing business under the laws of the State of Michigan, party of the second part,

WITNESSETH, That the said parties of the first part [illegible] by sell and transfer unto the said LOWER PENINSULA POWER COMPANY, a corporation, party of the second part, [illegible] right to draw 50 square inches of water from the race of, together with a $\frac{50}{6250}$ undivided interest in the water power development at the village of Plainwell, Allegan County, Michigan, owned by the party of the first part as a member of an association known as the Plainwell [illegible] Company, as organized on June 22, 1932.

for the sum of One Dollar and other valuable consideration, [illegible] money of the United States of America, to them in hand paid [illegible] said second party, receipt whereof is hereby confessed and acknowledged.

IN WITNESS WHEREOF the said parties of the first part have hereunto set their hands and seals the day and year first above written.

R E Maurer
Elsie I. Maurer

Signed, Sealed and Delivered
In the Presence of:

E W Stone
G W Gidney

STATE OF MICHIGAN
COUNTY OF ALLEGAN, S.S.

Before me, a Notary Public in and for said County, 7th day of July, 1932, personally [illegible] Elsie I. Maurer, his wife, known to me [illegible] and who executed the within and foregoing deed, [illegible] execution of the said deed.

Ethel W Stone
Notary Public, [illegible], Mich.

My commission expires Aug 4/1932

K00004741

WARRANTY DEED—Short Form. No. 1 The Onderdonk Printing Co., Grand Rapids, Mich.

This Indenture,

Made this 17th day of September in the year of our Lord one thousand nine hundred and fifteen

BETWEEN Hattie Bellinger of Plainwell, Mich.,

of the first part, and Plainwell Water Power Company, a domestic corporation with its principal office at Plainwell Mich.,

of the second part,

WITNESSETH, That the said party of the first part, for and in consideration of the sum of two hundred Dollars, to her in hand paid by the said party of the second part, the receipt whereof is hereby confessed and acknowledged, does by these presents grant, bargain, sell, remise, release, alien and confirm unto the said party of the second part, and its successors and assigns, FOREVER, all that certain piece or parcel of land situate and being in the village of Plainwell County of Allegan and State of Michigan, and described as follows, to-wit:

Commencing at a point in the center of Jersey Street nineteen chains and forty one links south of the center of Bridge Street; thence south along the center of Jersey Street four chains and one link; thence east six chains and one link, to the Mill Race; thence down said Mill Race to a point nineteen chains and forty one links south of the center of Bridge Street; thence west to the place of beginning; containing two acres of land more or less.

(This deed is given subject to the rights that said party of the second part now has to flow said land.)

Together with all and singular the hereditaments and appurtenances thereunto belonging or in anywise appertaining: To Have and to Hold the said premises, as above described, with the appurtenances, unto the said party of the second part and to its successors and assigns, Forever. And the said party of the first part, for herself, her heirs, executors and administrators, doth covenant, grant, bargain and agree to and with the said party of the second part its successors and assigns, that at the time of the ensealing and delivery of these presents she is well seized of the above granted premises in fee simple; that they are free from all incumbrances whatever Except as to said rights to flow; and that she will, and her

RETURN TO TITLE DEPT.

K00004742

Plainwell Vgc (Dec 65)
Plainwell Water Pwr.

RETURN TO TITLE DEPT.

No. 1

Warranty Deed

SHORT FORM

HATTIE BELLINGER

To

PLAINWELL WATER POWER COMPANY

REGISTER'S OFFICE, } ss.
Allegan County, }

This instrument was presented and received for record this 16th day of Dec. A. D. 1916 at 10 o'clock A. M., and recorded in Liber 207 of deeds on page 253, as a proper certificate was furnished in compliance with Section 3957 Compiled Laws of 1897.

(Signed) C. A. Daugherty
Register of Deeds.

7

~~and that~~ ~~will and~~ heirs, executors, and administrators/shall Warrant and Defend the same against all lawful claims whatsoever, except as above. forever

IN WITNESS WHEREOF, The said party of the first part, has hereunto set her hand and seal the day and year first above written.

Signed, Sealed and Delivered in Presence of

(Signed) Bertha J. Shand
(Signed) Ed. J. Anderson

(Signed) Hattie Bellinger (L. S.)
(L. S.)
(L. S.)

STATE OF MICHIGAN, } ss.
County of ALLEGAN

On this 30th day of October in the year one thousand, nine hundred and fifteen before me, the subscriber a notary public in and for said County, personally appeared Hattie Bellinger to me known to be the same person described in, and who executed the within instrument, who then acknowledged the same to be her free act and deed.

Ed. J. Anderson
Notary Public
~~Notary Public in and for~~ ~~County, Michigan~~

STATE OF MICHIGAN, } ss.
County of

My commission expires Nov. 16th 1918

On this day of in the year one thousand, nine hundred and before me, the subscriber in and for said County, personally appeared to me known to be the same person described in, and who executed the within instrument, who acknowledged the same to be free act and deed.

Notary Public in and for County, Michigan.
My commission expires

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T 72-317

QUITCLAIM DEED

THIS INDENTURE, Made this 30th day of May, 19 73, Between CONSUMERS POWER COMPANY, a Michigan corporation, 212 West Michigan Avenue, Jackson, Michigan (successor by merger to Consumers Power Company, a Maine corporation), first party, and

CITY OF PLAINWELL, a municipal corporation,
141 North Main Street, Plainwell, Michigan 49080, second party,

WITNESSETH:

That the said first party, for and in consideration of the sum of - - - - - One Thousand Five Hundred and no/100 - - - - - - - - - - - - - - - Dollars ($1,500.00) to it in hand paid by said party, the receipt whereof is hereby confessed and acknowledged, does by these presents grant, bargain, sell, remise, release and forever QUITCLAIM unto the said second party and to its successors and assigns Forever, the following described land situate in the City of Plainwell, County of Allegan and State of Michigan, known and described as follows:

Lots 24 and 25 of Corporation Plat of the Village (now City) of Plainwell, according to the recorded plat thereof, excepting therefrom a strip of land 24 feet wide off the whole length of the West side of said Lot 25.

Excepting and reserving to first party, its successors and assigns FOREVER, the easement and right to erect, lay and maintain lines consisting of poles, wires, cables, conduits and other fixtures and appurtenances for the purpose of transmitting and distributing electricity and/or conducting a communication business on, over, under and across the premises herein conveyed, including all public highways upon or adjacent to said parcel of land.

The route to be taken by said lines of poles, wires, cables and conduits on, over, under and across said land being more specifically described as follows:

In an E'ly and W'ly direction, and in a N'ly and S'ly direction on, over, under and across said above-described land.

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With full right and authority to first party, its successors, licensees, lessees or assigns and its and their agents and employees to enter at all times upon said land for the purpose of patrolling, constructing, repairing, removing, replacing, improving, enlarging and maintaining such wires, cables, conduits and poles and other supports with all necessary braces, guys, anchors, manholes and transformers and stringing thereon and supporting and suspending therefrom lines of wires, cables or other conductors for the transmission of electrical energy and/or communication and to trim, remove, destroy or otherwise control any trees and brush which may, in the opinion of first party, interfere or threaten to interfere with or be hazardous to the construction, operation and maintenance of said lines. It is understood that no buildings or other structures will be placed under or over such facilities or within such proximity thereto as to interfere with or threaten to interfere with the construction, operation or maintenance of said facilities. It is further understood that nonuse or a limited use of this easement by first party shall not prevent first party from later making use of the easement to the full extent herein reserved.

Together with all and singular the hereditaments and appurtenances thereunto belonging or in anywise appertaining, TO HAVE AND TO HOLD the said premises unto the said second party and to its successors and assigns to the sole and only proper use, benefit and behoof of said second party, its successors and assigns, Forever.

Where applicable, pronouns and relative words used herein shall be read as plural, feminine or neuter.

IN WITNESS WHEREOF, said first party has caused this instrument to be executed in its corporate name and by its duly authorized officer as of the day and year first above written.

WITNESSES:

Linda R. Thayer

Linda R. Thayer

Lois E. Barnes

Lois E. Barnes

APPROVED AS TO FORM
RRR
CONSUMERS POWER COMPANY
LEGAL DEPARTMENT

CONSUMERS POWER COMPANY

By W. Jack Mosley
W. Jack Mosley
Vice President

STATE OF MICHIGAN)
County of Jackson) ss.

The foregoing instrument was acknowledged before me this 30th day of May, 1973, by W. Jack Mosley, Vice President of Consumers Power Company, a Michigan corporation, on behalf of the corporation.

My Commission expires
January 31, 1975

Stanley C. Kent
Stanley C. Kent
Notary Public, Jackson County, Michigan

PREPARED BY D R ROOD CONSUMERS POWER
212 W MICHIGAN AVENUE JACKSON MICH

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