UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

60000[illegible]

REPLY TO THE ATTENTION OF

August 3, 1998



[redacted]
New Boston, MI 48164

Dear [redacted]

As a follow up to our phone conversation last month, I am enclosing a portion of the Removal Action Plan prepared by Chrysler's consultant that discusses the work that will be done to make sure that all contaminated soil is removed during the removal (the answer to your specific question is on page 15). This plan has been approved by U.S. EPA and it is required that Chrysler and its contractors comply with this plan during the removal.

To verify that the excavation is complete, the field contractor will first collect soil samples that appear to be clean and do some field screening to see if certain contaminants are present. This is the immunoassay testing that is referenced. The BTEX compounds are contaminants that are present at the site and include benzene, toluene, ethylbenzene and xylene. These are volatile organic compounds which are liquids that evaporate easily (for example, BTEX compounds are present in gasoline). Field screening is a common procedure that is faster and less expensive then collecting samples and sending them to a laboratory for analysis. As the work plan indicates, if the field screening indicates that the soils are likely "clean," then additional samples will be collected and sent to laboratory for verification. The laboratory will analyze for more contaminants then the field screening and the data is more reliable. If the laboratory results show that the soils are clean then the excavation will stop; if not, additional soil will be excavated and additional samples will be collected and sent to the laboratory for analysis. This process will continue until the laboratory samples show no contamination. This procedure will be followed for each area that is excavated. Chrysler is required to provide all of the data to U.S.EPA for our approval.

I hope this answers your questions about insuring that the removal action will not leave any contaminated soils behind. If you have any other questions, please give me a call at (312) 886-7257.

Sincerely,

Michael A. Gifford
Project Manager

## 7.00 SECURITY AND GENERAL SITE FACILITIES

### 7.10 SECURITY

All parties entering the Site will be required to sign in at the Site office. Only authorized persons with appropriate health and safety training and medical monitoring as specified in the Contract Specifications will be allowed to proceed into the EZ. The Site will be secured after operating hours with locked gates, and the Security Contractor will be required to provide 24-hour surveillance from commencement of on-Site activities through demobilization of the Contractor's equipment and facilities.

### 7.20 ADMINISTRATIVE AREA PREPARATION

The Contractor will provide a free-standing office trailer for use as a Site office. The Site office will require separate office space for the Site Manager, Contractor and security personnel. On- and off-Site communication will be maintained by the use of two-way radios, hard-line telephones, and cellular telephones. The Site office will be the location where parties sign in and out, documentation is kept and outside communication afforded. Documentation maintained at the Site will consist of the following: permits; manifests; the Contractor's HASP; the contractors' emergency response plans; contingency plans; daily equipment use records; personnel and subcontractor records; disposition records; daily field summaries of Site activities; and a visitors log. The route to the hospital designated for use during remedial activities, and emergency phone numbers will also be posted in the Site office.

### 7.30 UTILITIES PREPARATION

Utilities and other amenities will be provided as follows:

- Electric power - a certified electrician will make the necessary connections and re-route power lines from the existing utility pole, located near the Site perimeter, to the Site office and a new power distribution panel located on the east side of the EZ, as shown on Figure No. L-2 or as proposed by the Contractor and approved by Chrysler;
- A hard-line telephone service will be installed and maintained during Site activities;
- Drinking and washwater will be transported to the Site office on a routine basis;
- Portable toilets will be transported to the Site office and routinely maintained;
- An equipment storage shed will be transported to the Site office and routinely maintained; and,
- A solid waste dumpster for general trash will be transported to the Site and routinely maintained.

## 7.40 PARKING AND TRUCK TURNING AREA PREPARATION

The Contractor will improve Site facilities to include an access road to the decontamination and loading area, a truck turnaround area and an area for Site personnel vehicle parking. The location and size of these Site facilities will be as proposed by the Contractor's Site Operations Plan. The area available for use by the Contractor in developing a Site layout and features to be included is shown on Figure No. L-2 as the "Site Remediation Work Area".

# 8.00 ISOLATED IMPACTED SOIL REMOVAL

Prior to establishing the support facilities for the Site, impacted soil is to be consolidated into the former drum disposal area by relocating the impacted soils in the Burnap Drain area and north portion of the Site, as follows. Note that the Contractor will be required to decontaminate any equipment leaving the Exclusion Zone during impacted soil consolidation work, using a temporary decontamination pad. The level of personnel protective equipment required for workers within the exclusion zone during this work will be determined by the activities being completed and will be identified in the Contractor's Health and Safety Plan.

## 8.10 BURNAP DRAIN AREA

The area north of Burnap Drain and south of the EZ will be cleared of all vegetation including, but not limited to bushes, shrubs and trees to facilitate soil removal. Cleared vegetation will be stockpiled separately from impacted soils for subsequent off-Site disposal. Impacted soils located between Burnap Drain and the EZ will stripped down to the native clay. The anticipated depth of impact is 1.5 feet below ground surface. Impacted soil will be stockpiled and covered within the former drum disposal area. Soil verification samples will be collected and analyzed following soil removal. This area will be temporarily left unbackfilled and protected in accordance with the Contractor's approved Erosion and Sedimentation Control Plan to be submitted as part of the Site Operations Plan. Backfilling and re-vegetation of the area will commence upon completion of impacted soil removal in the subsurface and surficial soil excavation areas.

## 8.20 NORTH PORTION OF SITE

Several isolated areas in the north portion of the Site will require remediation prior to preparation of the EZ. Specifically, isolated areas in the vicinity of SS-24 and GZATP-2 are located west of the access road, and HA-23/SS-23 is located near the new truck turning area, as shown on Figure No. L-2. The anticipated depth of impact is 4.5 feet at SS-23/HA-23, 1.5 feet at SS-24 and 7.5 feet at GZATP-2. Soil in the isolated areas will initially be excavated to the above-referenced depths and laterally until evidence of impact is not present, based on visual appearance and field screening results or as indicated on Figure No. L-3, as directed by the Site Manager.

Soil verification samples will be collected in accordance with Section 13.00 Verification of Effectiveness and further excavation will be performed if required following laboratory analysis of the verification samples. Upon receipt of unacceptable verification sample analytical results, soils in the vicinity of an impacted sample will be removed an additional 3 feet laterally and/or 1 foot vertically. Lateral delineation of impact for two or more adjacent impacted samples will be determined in the field by the Site Manager.

Excavated soil will be stockpiled and covered in the former drum disposal area. Safety fence will be provided as required to prevent access to open excavations during non-working hours. The isolated areas will be backfilled with clean, imported granular material and compacted following receipt of verification sample analyses indicating complete remediation.

## 9.00 EXCLUSION ZONE PREPARATION

Prior to removal of impacted soil from the former drum disposal area, the exclusion zone will be prepared by removing the existing EZ fence; installing an excavation perimeter drain network; installing perimeter silt fencing, as necessary; installing stockpile and decontamination pads; and installing a new EZ fence.

### 9.10 FENCE REMOVAL

A portion of the existing security fence along the north and east sides of the EZ, as shown on Figure No. L-2 and in accordance with the Contractor's Site Operations Plan, will be removed in accordance with the Contract Specifications to facilitate installation of the excavation dewatering system and construction in the soil staging and decontamination area. Removed fencing components will be stored on-Site for re-use during installation of the new Site security fence. A temporary safety fence will be erected to limit access to the EZ prior to installation of the new security fence.

### 9.20 EXCAVATION DEWATERING SYSTEM INSTALLATION

The Remedial Contractor will be responsible for installing a dewatering system for the purpose of lowering the perched groundwater table and collecting impacted groundwater from inside and outside the exclusion zone. The drainage network will consist of a series of perforated drainage pipes which will direct water to three sumps. Sump and drainage pipe placement will be as shown on Figure No. L-3. The dewatering system will be constructed as shown on Figure No. L-4 in accordance with the Contract Specifications. Additional detail is provided in Section 10.00 Water Collection System.

## 9.30 SOIL STAGING AREA PREPARATION

The soil stockpile pads and loading area (collectively defined as the soil staging area) will be constructed in accordance with the Contractor's approved Site Operations Plan and the Contract Specifications.

The soil staging area will be located and sized by the Contractor to allow the Contractor to efficient completion of the work. The soil staging area will be constructed of asphalt with a cross section as shown on Figure L-44, in accordance with the Contractor's Site Operations Plan and the Contract Specifications. The soil staging area will include provisions for the collection and temporary storage of liquid drainage from impacted soils. A liner and secondary collection system will be installed beneath the asphalt to prevent impact to underlying soils from leakage.

## 9.40 DECONTAMINATION PAD INSTALLATION

The Remedial Contractor will be responsible for installing a concrete decontamination pad and appurtenances adjacent to the soil staging area. The decontamination pad will be utilized for decontamination of loaded trucks and heavy equipment prior to leaving the Site. The decontamination pad will be located and sized by the Contractor to allow for the efficient completion of the work. The decontamination pad will be constructed of concrete with a cross section as shown on Figure L-4, in accordance with the Contractor's Site Operations Plan and the Contract Specifications. The decontamination pad will include provisions for the collection and temporary storage of rinsewater and sediments. A liner and secondary collection system will be installed beneath the concrete to prevent impact to underlying soils from leakage through the pad.

## 9.50 FENCE INSTALLATION

Upon complete installation of the truck turning area, soil staging area, and decontamination pad, installation of security fencing will be completed in the northern portion of the EZ. Old fencing components (if usable) shall be utilized prior to new. Additionally, a safety fence will be placed around the personnel Contaminant Reduction Zone (CRZ). Jersey barriers, or a Contractor proposed, approved alternate, will be used to segregate the soil staging and decontamination areas from the EZ.

## 9.60 MONITORING WELL ABANDONMENT

Monitoring well MW-2 (located within the former drum disposal area) is a double cased well set at a depth of approximately 30 feet, and must be abandoned prior to removal activities to prevent the introduction of constituents into deeper portions of the silty clay unit. Stagnant water in the monitoring well will be removed by pressure grouting the inside of the monitoring well to the surface with a cement/bentonite mix. Upon completion of the excavation in the vicinity of MW-2, the monitoring well will be cut off at the base of the excavation.

## 10.00 WATER COLLECTION SYSTEM

The Contractor will be responsible for providing a water collection system consisting of pumps, pump controls, and piping/hosing as needed for a complete installation in accordance with the Contract Specifications. Submersible, automatic operating type pumps, capable of delivering a flow of at least 20 gallons per minute, will be installed in each sump and connected to piping/hosing used to transfer collected water to on-Site fractionation tanks (frac tanks) for temporary storage. Additional temporary dewatering devices will be provided as required to collect water from excavations due to surface runoff, groundwater infiltration and precipitation. Collected water will be stored in the frac tanks until transported and disposed of off-Site at a facility audited and approved by Chrysler, currently in compliance with all permit requirements, and permitted to accept the water based on the results of analytical testing. The water collection system will be allowed to operate uninterrupted for a period of at least 14 days prior to initiation of excavation in the subsurface soils area. The Contractor's piping of extracted groundwater shall be installed to allow for continuous pumping during excavation and loading activities.

Upon completion of Site activities the Contractor will be responsible for removal of all pumps, piping, fittings, supports and other accessories. The Contractor will also be responsible for decontaminating the frac tanks upon approval of the Site Manager.

## 11.00 FORMER DRUM REMOVAL AREA IMPACTED SOIL REMOVAL

The Contractor will be responsible for excavation, staging, loading, transport and disposal of impacted soils and debris. Excavation of impacted soils will commence upon completion of EZ preparation. The excavation within the Former Drum Removal Area is divided into two sections, subsurface and surficial, as shown on Figure No. L-3. Surficial soils will be excavated first if the initial dewatering period has not expired. Impacted material in the subsurface area will initially be removed to a depth of 1 foot below the original clay surface elevation, and impacted material in the surficial area will initially be removed to a depth of 2 feet below existing grade. If visual evidence is present after the initial excavation, additional material will be removed until evidence of impact is no longer present, as directed by the Site Manager.

Soil verification samples will be collected in accordance with Section 13.00 Verification of Effectiveness. Upon receipt of verification sample analyses, soils in the vicinity of an impacted sample will be removed an additional 3 feet laterally and 1 foot vertically. Lateral delineation of impact for two or more adjacent impacted samples will be determined in the field by the Site Manager.

Ground adjacent to the excavation will be graded to prevent accumulation of surface water runoff. Water that contacts impacted material will be collected and pumped to the frac tanks, as described in 10.00 Water Collection System. The excavation will be completed in such a manner as to prevent the spreading of impacted soils to non-impacted areas.

Excavated material will be transported from the EZ to the soil staging area. Once a stockpile pad is full it will be covered with plastic sheeting and allowed to drain of free liquids, if necessary, as directed by the Site Manager.

## 12.00 TRANSPORTATION AND DISPOSAL

The stockpiled soils which do not contain free liquids will be loaded into trucks in the soil loading area. The trucks will then be moved onto the decontamination pad, and all tires and external surfaces of the truck will be cleaned to remove residual soil. Each load will have a properly completed special waste manifest indicating the source of the soil, quantity, and disposal destination. The soil shall be transported and disposed of at one of the three following facilities which have already provided acceptance of the soil (see Appendix D for the approval notifications issued by the facilities):

1. Carleton Farms Landfill, Sumpter Township, Michigan.
2. Woodland Meadows Landfill, Wayne, Michigan.
3. Wayne Disposal, Belleville, Michigan.

Extracted groundwater shall be pumped into tanker trucks, manifested, and transported to the disposal facility identified by the Contractor, and pre-approved by Chrysler. Each disposal facility will be reevaluated prior to the time of discharge to document that they are currently in compliance with their facility permit(s). Any tanker trucks entering the soil loading area or exclusion zone will also be decontaminated prior to leaving the area.

All transportation and disposal activities shall be completed in accordance with applicable Local, State and Federal regulations.

## 13.00 VERIFICATION OF EFFECTIVENESS

During excavation, sidewall and bottom soil samples will be collected by the Site Manager whenever the soils appear to be free of impact. Samples will be analyzed in the field using immunoassay testing equipment for certain indicator parameters (BTEX or PCBs). If the field testing equipment indicates that the soils are likely "clean", the excavation will be stopped in that direction and verification samples will be collected and submitted for laboratory analysis. Sample quantity will be in accordance with the MDEQ guidance document, "Verification of Soil Remediation." Verification samples from the Burnap Drain Area will be analyzed for the Target Analyte List (TAL) inorganics. Verification samples from other areas of the Site will be analyzed for the Target Compound List (TCL) and TAL constituents, except for pesticides. Verification sample analytical testing will be conducted by Compuchem Environmental, Inc., of Research Triangle Park, North Carolina, in accordance with the U. S. EPA Contract Laboratory Program (CLP) protocols.

Upon receipt of verification sample analytical results that indicate that the excavation limits do not have constituent concentrations above the Residential Criteria, as discussed in Section 4.00 Environmental Quality Objectives, the soil remediation will be considered complete.

## 14.00 SITE RESTORATION

Upon complete verification of soil remediation, the Site will be restored. Site restoration will include the following: staging pad and decontamination pad removal; fence removal; backfill and grading; and seeding and mulching.

### 14.10 STAGING AND DECONTAMINATION AREA RESTORATION

The Contractor will be responsible for the complete demolition, loading, transportation and disposal of staging area and decontamination pad components in accordance with the Contract Specifications. Soils, concrete and all other material within the staging and decontamination pad areas will be removed. All materials will be direct loaded and transported off-Site to an approved landfill.

### 14.20 FENCE REMOVAL

Upon completion of remediation and restoration of the staging and decontamination areas, the security fence, in its entirety, will be removed. Removal of existing fencing shall include all fabric, barbed wire, posts, gates, concrete, and any other components associated with the fencing. Fencing components will be taken off-Site for recycling or disposal.

### 14.30 FINAL BACKFILL AND GRADING

Upon receipt of the final verification sample results indicating remediation has been completed, the excavation and the soil staging and decontamination areas will be backfilled and graded. The Site will be uniformly smoothed, trimmed, and compacted to the final grade (in preparation for topsoil placement) in accordance with the Contract Specifications. Final grade will not require backfilling to pre-removal ground surface elevations. Rather, ground surface will be graded with a one percent minimum slope to the southeast towards Burnap Drain. Permanent slopes in the vicinity of the subsurface excavation will be placed and maintained at a minimum of 1 vertical to 3 horizontal.

### 14.40 CLOSURE OF EXCAVATION DEWATERING SYSTEM

Upon completion of Site grading, the excavation dewatering system will be protected to prevent access. Sumps will be cut off at 1 foot above final grade and fitted with sealed end caps. The dewatering system will be closed following verification of groundwater remediation. Closure will

not require removal of the entire system but will consist of cutting the top portion of the sumps 6 inches below grade and backfilling the sumps to grade with imported granular material.

## 14.50 TOPSOIL PLACEMENT AND SEEDING

Final Site restoration shall consist of placement of topsoil and seeding in accordance with the Contract Specifications. Topsoil will be placed and graded in areas disturbed by the work. A seed mixture for indigenous grasses and plants and fertilizer will then be placed on the topsoil, raked into the soil and thoroughly wetted. Vegetative cover in the Burnap Drain Area will be restored following wetland mitigation guidelines in accordance with applicable regulations referenced in the Contract Specifications.

## 14.60 ADMINISTRATIVE AREA AND UTILITIES REMOVAL

The Remedial Contractor will be responsible for removing the free-standing office trailer and associated utilities. Utility removal will consist of the following:

- Electric power - a certified electrician will make the necessary disconnections to remove the power distribution panel on the east side of the EZ and power lines connecting the existing utility poles to the Site office;
- Disconnect the hard-line telephone service;
- Clean and remove the office trailer;
- Clean and remove portable toilets;
- Remove the equipment storage shed; and,
- Empty and remove the solid waste dumpster.

## 14.70 CLEANUP

The Remedial Contractor will be responsible for removal of all construction debris resulting from the work and cleanup of all adjoining areas impacted by the work.

# 15.00 HEALTH AND SAFETY

All field work will be conducted in accordance with the Contractor's approved Site HASP. The HASP will be completed in accordance with the Contract Specifications. GZA's Work Plan, Volume II Health and Safety Plan will be available to the Remedial Contractor for review. Personnel air monitoring and decontamination will be completed in accordance with the

Contractor's Air Monitoring Plan and Decontamination Plan, to be submitted as part of their HASP.

Perimeter air monitoring and ambient air sampling will be completed by the Site Manager and will be conducted in accordance with the Work Plan, Volume II Health and Safety Plan with the following variation:

- Respirable dust will be monitored continuously at the "roving" monitoring location. Dust control measures will be implemented when dust levels exceed 50 micrograms per cubic meter ($ug/m^3$). Dust control measures will consist of wetting open excavations and soil stockpiles with a fine mist of water without the addition of surfactants or other additives in accordance with the Contract Specifications.

## 16.00 POST REMEDIATION GROUNDWATER MONITORING

Following removal activities at the Site, three replacement monitoring wells will be installed in the backfilled areas at the approximate locations of existing monitoring wells MW-8, MW-9 and MW-10. The objective of the post remediation groundwater monitoring is to verify the effectiveness of soil and groundwater remediation. Well installation, development, purging and sample collection will be in accordance with the approved Work Plan, Volume I Waste Removal and Engineering Assessment.

Replacement wells will be allowed to recharge for a period of at least three months. Site wells will be sampled and analyzed for key indicator parameters previously detected in groundwater at the Site. Subsequent samples will be collected quarterly until such time as compliance with the groundwater cleanup goals, as discussed in Section 4.00 Environmental Quality Objectives, is achieved. Compliance with the groundwater cleanup goals shall be considered complete following four consecutive quarters with constituent concentrations below the respective cleanup goal.

## 17.00 REMOVAL ACTION COMPLETION REPORT

A final closure report will be prepared by GZA documenting the removal action activities, soil verification sample results and post remediation groundwater monitoring. The report will provide: plans showing the areas of soil removal and verification sample locations; load tickets documenting the volume and disposition of impacted soils and water; and original laboratory reports with appropriate QA/QC documentation.

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