REMEDIAL INVESTIGATION WORK PLAN ADDENDUM
GENERAL MOTORS CORPORATION
TRENTON, NEW JERSEY
ISRA CASE No. 97070

by

Haley & Aldrich of New York
Rochester, New York

for

General Motors Corporation
Detroit, Michigan

File No. 70613-002
May 1999

HALEY & ALDRICH

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of N.J.S.A. 13:1K-6 et seq., I am personally liable for the penalties set forth at N.J.S.A. 13:1K-13.

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27 May 1999
File No. 70613-002

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Subject: Remedial Investigation Work Plan Addendum
General Motors Corporation
Former Delphi Interior & Lighting Systems Facility
Trenton, New Jersey

Ladies and Gentlemen:

Haley & Aldrich of New York is pleased to present this Remedial Investigation Work Plan Addendum for General Motors Corporation's former Delphi Interior & Lighting Systems facility located at 1445 Parkway Avenue in Trenton, New Jersey. This work plan addendum has been prepared at GM's request pursuant to the requirements of the State of New Jersey's Industrial Site Recovery Act.

Thank you for asking us to prepare this work plan addendum. Please contact us if you have any questions.

Sincerely yours,
HALEY & ALDRICH of NEW YORK

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I. INTRODUCTION

This Remedial Investigation (RI) Work Plan Addendum was prepared for General Motors Corporation (GM) by Haley & Aldrich of New York (Haley & Aldrich). This Work Plan Addendum presents proposed remedial investigations to be conducted at GM's former Delphi Interior & Lighting Systems Division (Delphi) facility located at 1445 Parkway Avenue in Trenton, Mercer County, New Jersey. The site location is shown on Figure 1.

The proposed supplemental remedial investigation activities will be undertaken pursuant to the requirements of the State of New Jersey's Industrial Site Recovery Act (ISRA), (N.J.S.A. 13:1K-6 et. seq.) in connection with GM's plans to close the facility. The New Jersey Department of Environmental Protection (NJDEP) has assigned Case No. 97070 to the ISRA-related activities performed at the site.

The purpose of the supplemental Remedial Investigation (RI) activities is to determine the nature and extent of contamination from on-site releases in areas of concern identified at the site where contaminants released exceed applicable NJDEP cleanup criteria. The supplemental RI will be performed in accordance with the NJDEP's Technical Requirements for Site Remediation.

1.1 Background Information

Previous RI activities performed pursuant to ISRA Case No. 97070, including the most recent investigations completed during the summer and fall of 1998, were described in an Interim Remedial Investigation Report dated 18 February 1999 (prepared by Haley & Aldrich for GM and submitted to the NJDEP). The RI activities proposed in this work plan addendum include investigations in those previously-investigated areas of concern where additional delineation of contaminants is warranted.

RI activities performed to date have in general not included direct investigation of environmental conditions at areas of concern located in or beneath existing facility buildings or structures, although groundwater monitoring had been performed at locations downgradient of the buildings and structures. Assessment of potential for releases and any appropriate follow-up soil or groundwater sampling in these areas had been deferred during the time period that the facility was in operation to avoid disruption of manufacturing activities. Since cessation of operations in 1998, investigation of conditions beneath facility buildings and structures had been deferred in anticipation of the decommissioning and demolition of facility buildings and structures.

Because GM is now planning for the possibility that the facility will be sold with some or all buildings intact, investigation of environmental conditions in areas of concern located in or beneath buildings and structures has been included in this Work Plan Addendum. However, plans for the sale of the facility are unresolved, and performance of the activities proposed herein may not be the most appropriate or efficient means of investigation if demolition of buildings and structures were to be conducted in the near future. Therefore, while GM plans to investigate the areas of concern located in or beneath buildings and structures in accordance with the Technical Requirements, the methods for performing the investigation may be subject

to change from those proposed herein. Should plans related to the disposition of the facility change, GM will submit related changes in the proposed investigative methods to the NJDEP in writing prior to beginning the investigations affected.

1.2 Purpose and Scope

This Work plan addendum describes the proposed sampling and analysis activities, proposed soil and groundwater sampling locations and depths, proposed analytical parameters, and related quality assurance/quality control measures. The proposed work includes:

- further delineation of soil contamination indicated by results of 1998 RI sampling and analysis activities conducted at the site.
- additional groundwater investigation, including resampling of existing wells to confirm 1998 results and installation and sampling of new groundwater monitoring wells for additional groundwater-contaminant delineation.
- investigations to address NJDEP's previous written conditions and comments not addressed during previous RI activities, including requirements for inspection and characterization of areas of concern in or beneath facility buildings and structures.

1.3 Work Plan Organization

Section II of this work plan addendum describes sampling locations and protocols for the proposed RI activities. Subsection 2.1 details supplemental RI activities to be conducted within and beneath the interior of the main manufacturing building. Subsections 2.2 through 2.9 cover each of the remaining Investigation Areas for which supplemental soil- or sediment-related investigation activities are proposed. Subsection 2.10 describes proposed groundwater-related investigation activities. Each subsection includes a description of the proposed type of investigation, type of sampling (soil, groundwater, or sediment), the number, location, and depth of soil samples to be collected, and the analytical parameters required.

Section III of the work plan addendum describes the quality assurance and quality control requirements associated with the proposed supplemental RI sampling and analysis activities.

References are listed at the end of the text section of the work plan addendum. Tables and figures summarizing the proposed work are presented in the tabbed sections following the references. A summary of the proposed sampling and analysis to be performed is presented in Table I. Table II presents an estimated schedule for the supplemental activities proposed. The Site Location is shown on Figure 1, and Figure 2 presents a Site Plan showing previous and proposed subsurface exploration locations.

II. SUPPLEMENTAL REMEDIAL INVESTIGATION SAMPLING ACTIVITIES

This section of the work plan addendum describes the proposed sampling and analysis activities to be performed. All sampling will be conducted in accordance with the N.J.A.C. 7:26E Technical Requirements and the quality assurance/quality control procedures outlined in Section III.

In areas of concern at the site which have previously been investigated, supplemental sampling locations proposed in this work plan addendum have been selected on the basis of data collected during the 1998 RI activities. Proposed sampling locations in these areas are subject to minor adjustment pending underground utility clearance.

In areas not previously investigated, whether sampling will be necessary and, if necessary, where sampling will be performed will depend to some extent on information yet to be developed. Information on the apparent integrity of the lining of existing sewer lines, pits, sumps, and trenches will be developed when these structures are cleaned and inspected during facility decommissioning. Apparent breaches in the integrity of those structures in which oil or hazardous substances were likely to have been handled will be investigated in accordance with the N.J.A.C. 7:26E Technical Requirements.

The following is a summary of the site features and areas of concern for which inspection or supplemental sampling activities are proposed:

- Investigation Area 1 (Main Manufacturing Building and the East Parking Lot)
  - Existing Plater #12 Pit
  - Existing Black Phosphating system
  - Scrap Metal Handling Pits
  - Existing Die Cast Area
  - Plastisol Paint and Primer Pits
  - Other existing pits, sumps, and trenches
  - Chemical Storage areas in the Solution Storage Room
  - Building Floor Slabs
  - Process Wastewater Sewer Lines and Manholes
  - Stormwater and Sanitary Sewer Lines
  - Releases at Electrical Substations
  - Former Platers #1 through 11 and the former Zinc barrel plater
  - Former Die Cast Area
  - Former Press Pits
  - Former Hydraulic Oil UST
  - Former Wastewater Treatment System in the De-ion Building
  - Former Gasoline UST locations beneath the Solution Storage Room

- Investigation Area 2 (Primary Switch House and area north of Power house)
  - Former paint thinner/solvent AST area
  - Transformer M-1 at the Primary Switch House
  - Area of Cinders and Slag along Former Rail Spur Northwest of Power House

- Investigation Area 3 (Power house area)
  - Former No. 6 fuel-oil transfer area
  - Former No. 6 fuel-oil piping trench
  - Area of stained concrete adjacent to railroad tracks west of fuel-oil ASTs
- Investigation Area 5 (Maintenance Building Area)
  - Drainage trenches in maintenance building shipping and receiving area, Truck Unloading area, and Vehicle Wash Area
  - Former raw materials drum storage pad
- Investigation Area 7
  - Former Sludge Drying Bed No. 5
  - Drainage swale south of the Die Storage Area and Sludge Bed No. 5
  - Area of stained concrete adjacent to drain within the Motor Storage Area
- Investigation Area 8 (Wastewater Treatment Plant)
  - Transformer Substation No. 14
  - Former process sewer sump, Parshall flume, and retention box
  - Waste-oil AST containment sump
  - Wastewater Neutralization tanks
  - Former oil-water separator
  - Groundwater quality in and downgradient of the WWTP area
- Investigation Area 9 (Power House Parking Lot - Former Empty-basket Storage Area)
  - Northeast corner of the Area 9 parking lot
  - Fill beneath the Area 9 parking lot
  - Groundwater quality in and downgradient of the Fill area
- Investigation Area 10 (Sludge Drying Beds No. 1 through 4)
  - Gold Run downstream of the Area 9 parking lot drain outfall and previous sediment location S10-1
  - Debris located in the wooded area surrounding the former sludge beds
  - Upgradient and downgradient groundwater quality
- Investigation Area 11 (Undeveloped Area along east edge of site)
  - Shallow groundwater quality in the former drum burial area (MOA Area A)
- Sitewide monitoring of groundwater quality and hydraulic gradients

A detailed description of the proposed supplemental work in each of these areas is provided below in Sections 2.1 through 2.10.

The following abbreviations of analytical parameters are used in the descriptions of supplemental sampling activities:

- TPH - Total Petroleum Hydrocarbons by EPA method 418.1 for soils and aqueous samples.

- VO - Volatile Organic compounds by USEPA Methods 8260 for soils and Method 8260 for aqueous samples (TCL VO + 10 TICs). Soil samples for VO analysis will be preserved in the field according to current NJDEP guidance.

- BN - Base Neutral compounds by USEPA Methods 8270 for soils and Method 8270 for aqueous samples (TCL BN + 20 TICs).

- PAHs - Polynuclear Aromatic Hydrocarbon base neutral compounds by USEPA Methods 8270 for soils.

- PPM - 13 Priority Pollutant metals plus barium for soils by USEPA's 6000 an7000 series of methods.

- TAL - 23 Target Analyte List Metals for aqueous samples by USEPA's 6000 and 7000 series of methods.

- PCBs - Polychlorinated Biphenyls by USEPA Methods 8082 for soils and for aqueous samples.

- CN - Total Cyanide by USEPA Methods 9010 for soils and 335.2 for aqueous samples.

- VOC-FS - Volatile Organic Compound Field Screening using a portable photoionzation detector instrument (HnU or Photovac Microtip).

- TCLP – USEPA Toxicity Characteristic Leaching Procedure methods.

- TOC - Total Organic Carbon analysis.

2.1 Investigation Area 1 – Main Manufacturing Building and East Parking Lot

Investigation of identified areas of concern located beneath buildings and other structures had been deferred by GM to avoid disruption of manufacturing operations, now ceased, and to take advantage of opportunities for expedient investigation of potential releases and subsurface environmental conditions which would be provided if demolition of facility buildings, structures, and pavements were to be performed.

GM's initial plans for facility decommissioning had included cleaning and inspection of subgrade structures followed by demolition. GM is currently considering plans to sell the facility with buildings intact, and therefore this work plan addendum proposes subsurface investigations in areas of concern located inside the manufacturing building in conjunction with various cleaning, inspection, and related decommissioning activities.

GM believes, however, that should building demolition eventually be selected as the means for decommissioning the facility, performance of pre-demolition cleaning and inspection of interior features followed by post-demolition inspections and investigations of subsurface conditions may be preferable to the indoor subsurface investigations proposed herein for many

areas of concern. GM therefore reserves the right to propose to NJDEP changes in the work scope described in this section of the Work Plan Addendum should GM change its plans for facility decommissioning.

A. Background Information

Previous assessment and investigations related to ISRA Case No. 97070, as documented in reports and correspondence listed in the references section of this Work Plan Addendum, have not identified any areas of concern in the east parking lot. Within the manufacturing building, NJDEP has identified, most recently in its conditional approval of the July 1997 RI work plan and in verbal comments made during a March 1997 walk-through of the building interior, general requirements for the ISRA-related investigation of the facility and several specific areas of concern within the building. One additional area of concern was identified during the preparation of this work plan addendum, and additional information on the location or nature of several previously-identified areas of concern was also developed.

These features and requirements are described below in Subsections 2.1.B through 2.1.R. Locations of specific areas of concern are shown on Figure 2. The manufacturing building column grid is shown on Figure 2, and reference to the column grid is made below in describing locations of building features and manufacturing areas.

Previous reports and correspondence related to ISRA Case No. 97070 have referred to locations within the building by Unit number. Building units 1 through 4 correspond to the original four sections of the building, each with different materials and style of construction. Units 5, 6 and 7 represent the major additions to the southeast, southwest and west sides, respectively, of the building. The names of the Units used in previous Case documents are listed below; cross-references to the building column grid are also listed.

Unit #1 – Manufacturing Tool Room: Columns A-2 to E-48

Unit #2 – Manufacturing Area: Columns E-4 to Z-48

Unit #3 – Manufacturing and Shipping Area: Columns AA-2 to KK-48

Unit #4 – Office Area: Columns E-0 to Z-4

Unit # 5 – South Extension West: Columns A-49 to AA-55

Unit #6 – South Extension East: Columns AA'-49 to JJ-55

Unit #7 – Receiving Area: Columns AY-2 to AZ-55

B. Integrity of the Building Floor Slab and Pits, Sumps, and Trenches

A general requirement for inspection and documentation of the integrity of the building floor slab and all pits, sumps, and trenches has been identified by NJDEP, with follow-up

investigation of underlying soil conditions in any areas where the integrity of the structures has been breached such that releases of oil or hazardous substances or materials which may have been used in the area could have occurred.

GM plans to address this general requirement by performing the cleaning and inspection of all pits, sumps, and trenches at the facility, including those in the manufacturing building, other buildings, and outdoor paved areas, during decommissioning activities. GM will remove existing wood floor block in the building to permit inspection of the underlying floor slab and where possible to identify patches in the floor slab which may serve to precisely locate former pits or other features for which existing information provides only an approximate or general location.

NJDEP staff involved in the oversight of ISRA Case No. 97070 will be given timely notification of the readiness of these features for inspection, and GM will endeavor to reach agreement with NJDEP staff concerning which features require follow-up investigation during the inspection. Sample analysis parameters for any appropriate follow-up investigation will be determined by agreement between GM and NJDEP at the time of the inspection.

Several specific existing and former pits, sumps, and trenches have been specifically identified as areas of concern in previous case documents, and each of these is described in a following subsection. Several other existing or former pits, sumps, and trenches appear to warrant subsurface investigation because a potential for releases is apparent from existing information or because cleaning and inspection to document integrity of the structure will be difficult or impossible; each of these is also described in a following subsection. Locations of existing pits, sumps, and trenches are shown on Figure 2.

C. Process Wastewater Sewer Lines and Manholes

Process sewer lines at the facility are constructed of terra-cotta pipe. Process sewers run at spacings of 120 feet from west to east beneath the building, and these connect with an 18-to 24-inch diameter trunk line which runs south along the edge of the driveway on the west side of the building to the onsite wastewater treatment plant (WWTP). Invert elevations for the process sewers range from 131 to 134 feet above mean sea level at upstream ends of the lines beneath the building to 123 feet at the downstream (south) end of the trunk line upstream of the WWTP. (Floor grade elevation at the facility is approximately 135.5 feet.) Locations of underground sewer lines for untreated process wastewater at the facility upstream of the WWTP are shown in blue on the attached Figure 2.

Several current and former underground lines for partially-treated process wastewater traverse the WWTP area. Treated wastewater is discharged from the WWTP at the northwest corner of the WWTP neutralization tanks to a 24-inch reinforced-concrete sewer. The treated wastewater sewer traverses the power house parking lot and discharges to a municipal sewer line beneath Parkway Avenue at a location north of Gold Run Pond.

A previously-documented minor leak of process wastewater which occurred in Investigation Area 8 at a manhole upstream of the old oil-water separator at the WWTP. (This releases was

investigated during 1998.) There is no record or knowledge on the part plant personnel of past leaks, breaks, or blockages in the process sewers elsewhere on site.

GM plans to clean all process sewer lines at the site and clean and inspect all process sewer-system manholes during facility decommissioning. The cleaning of the lines will be performed using water flushing or blasting as appropriate for the materials of construction of each section of sewer. Blockages, breaks, or leaks noted during the cleaning of the sewer lines will be documented, and the integrity of process sewer manholes will be documented.

Soil test borings will be performed as appropriate at locations along each of the sewer lines where leaks, blockages, or breaks are noted and at manholes which are found to have apparently poor integrity. If cleaning operations do not provide conclusive information concerning locations of potential past releases, a minimum of two test borings will be performed adjacent to each of the 8 branch lines beneath the building at locations downstream of former plating areas or operations which generated oily wastewater, and a minimum of six test borings will be performed adjacent to the main trunk line. Proposed test boring locations are shown on Figure 2; however, the locations shown are subject to change to take advantage of information on the integrity of the sewer lines gained in the decommissioning activities.

Test borings will be advanced to the top of bedrock or to 4 feet below the sewer invert elevation. Where possible and appropriate, one soil sample will be collected at each test boring from the sample interval in the bedding material for the sewer at a depth directly below the sewer invert. Soil samples will be analyzed for PPM and TPH. VO analysis will be added if field screening indicates the presence of volatile compounds. CN analysis will be added for test borings located downstream of former plating operations. Additional samples will be collected for analysis if warranted by observations of apparent contamination.

An overburden or shallow-bedrock monitoring well will be installed along the facility driveway east of the manufacturing building at a location approximately 300 feet north of existing well MW-18. The proposed well location is shown on Figure 2. The purpose of the new well will be to provide additional information on groundwater quality and hydraulic gradients at the water table downgradient of the process sewer system and manufacturing operations in the north end of the manufacturing building. The well will be installed and sampled twice in accordance with the Technical Requirements for analysis of PPM, BN and VO.

D. Stormwater and Sanitary Sewer Lines

Stormwater and sanitary sewer lines and manholes will be cleaned during facility decommissioning. No investigation of soil conditions along either sewer system is planned.

Dry-weather monitoring of water flow and sampling for VO analysis will be performed at accessible locations along or downstream of those sections of both the storm and sanitary sewer systems in the northern portion of the site where invert elevations are below the apparent water table. This monitoring and sampling will be performed to determine whether groundwater is infiltrating the sewers.

E. Electrical Substations on the roof of the Manufacturing building

Appropriate cleaning and remediation of equipment and pads at substations where PCBs have previously been detected will be performed by GM during facility decommissioning.

F. Existing Plater #12 Pit

The location of the existing #12 plater pit is shown on Figure 2. Areas of degraded concrete are apparent in portions of the floor of the existing foundation. Shallow soil sampling for PPM and CN analysis will be performed at up to 5 locations within the pit. Sample locations will be selected to cover the length of the pit and will be biased to locations where the evidence of severest degradation of the concrete pit lining is apparent. A single sample of soil will be collected at each location from the sample interval 6 to 12 inches below the base of the concrete lining of the pit. Follow-up soil sampling will be performed as appropriate to define the vertical and lateral extent of any contamination identified in the shallow samples which exceeds the NJDEP's cleanup criteria.

A single test boring will be installed at the south side of the pit for the purpose of collecting a shallow groundwater sample downgradient of the former plating operation. The test boring will be advanced to the top of bedrock using direct push (Geoprobe or similar) methods, and if possible a groundwater sample will collected for PPM and CN analysis. Follow-up well installations will be performed as appropriate to determine the extent of any groundwater contamination identified which exceeds the NJDEP's cleanup criteria.

G. Existing Black Phosphating System and Former Plater #5

The existing Black Phosphating system (also referred to as the Zinc phosphater in previous case documents) occupies the area which is the former location of the #5 plater pit. No information on the integrity of the former plater pit or the nature of the backfill placed in the pit at the time of closure is available.

The Black Phosphating system containment structure and associated sumps and trenches will be cleaned and inspected during facility decommissioning, and follow-up investigation of any potential releases identified will be performed as indicated in Subsection 2.1.B above.

A test boring or pit will be performed at a location within the former limits of the former plater pit (probably through the existing floor of the Black phosphater system containment) to determine the nature of the backfill used to fill the former plater pit. If possible, the exploration will be advanced to the concrete floor of the former pit. If waste or apparently-contaminated material is encountered in the backfill, the material will be sampled for analytical characterization. Analytical parameters will be determined on the basis of the apparent nature of the waste or contamination observed.

If waste material is encountered or if contaminated backfill requiring remediation is encountered, the following activities will be performed in connection with GM's

decommissioning of the facility: removal of the overlying equipment and floor slab, removal for appropriate offsite disposal of the backfill material in the former plater pit, cleaning and inspection if possible of the integrity of the pit walls and floor to determine whether releases of backfill constituents or plating chemicals could have occurred, and appropriate follow-up investigation of compromises in the integrity of the pit. Follow-up investigation may include either test borings through the floor of the pit or removal of concrete followed by sampling of underlying and/or adjacent soil. Soil-sample-analysis parameters will include PPM, CN, and any other contaminants detected in the pit backfill material.

If waste or apparently-contaminated material is not encountered in the backfill material in the former pit, the test boring or pit through the backfill will be advanced if possible through the concrete floor of the former pit to underlying soil. If the exploration can be advanced to underlying soil, a soil sample will be collected from the interval 6 to 12 inches below the base of the former pit lining for analysis of PPM and CN.

A single test boring will be installed near the southeast corner of the former #5 plater pit for the purpose of collecting a shallow groundwater sample adjacent to the downgradient side of the former plating operation. The test boring will be advanced to the top of bedrock using direct push or standard drilling methods. A soil sample will be collected for PPM and CN analysis from the 2-foot depth interval corresponding to the interval just below the elevation of the base of the concrete lining of the former plater pit as determined by the exploration described in the previous paragraph. Additional soil samples will be collected for PPM and CN analysis if staining of soils is noted. If possible a groundwater sample will be collected for PPM and CN analysis from the test boring using Geoprobe, Hydropunch, or other direct-push methods.

If either soil or groundwater contamination which exceeds the NJDEP's cleanup criteria is identified by the investigations described above, both soil sampling and well installations with related groundwater sampling will be performed in accordance with the Technical Requirements as appropriate to determine the nature and extent of contamination.

H. Former Platers #1 through 4, 6 through 11, and the Former Zinc Barrel Plater

Eleven other former plating areas are located in Units 2 and 5 of the Manufacturing building. The locations of these former platers were as shown on Figure 2. (Information on the locations shown was obtained from engineering drawings reviewed during the preparation of this work plan addendum.) Former platers #1 through 4 and former plater #8 were installed on floor-level decks; former platers 6, 7, 9, 10, 11, and the Zinc barrel plater were installed in elongated subgrade pits.

Compromises in the integrity of pit floors are known by plant personnel to have been present in the # 7 Hanson Plater pit, closed in 1990, and in the #10 Hanson anodizer pit. Available information concerning conditions at these two locations is presented below. No information concerning conditions of pit or deck linings at the other former plating areas is available.

Plant personnel reported that approximately 5 to 10 cubic feet of stained soil were removed for offsite disposal from beneath a degraded area of the Number 7 Plater pit floor. Facility

records include analytical data for two soil samples; the data indicated the presence of 7,100 to 11,000 ppm total chromium in the soil samples and 27 to 42 ppm of hexavalent chromium in EP-Toxicity extracts of the samples. The samples appear to have been of soil material which had been excavated for disposal; however, the records do not specifically indicate how, when, or where the samples were collected. Precise locations and depths are also not indicated by the recorded information; however, plant personnel reported that the area of degraded concrete was located in the east end of the pit. No records of post-excavation sampling are contained in facility files. According to plant personnel the pit was backfilled with clean fill.

Four soil test borings will be performed in the area at the east end of the former #7 plater pit. One boring will be located within the limits of the former pit, and the remaining three will be located just outside the former pit limits along its north, east, and south sides. The borings will be will be advanced with continuous sampling to the top of bedrock, and one or more samples from each boring will be collected for PPM and CN analysis from depths below the former pit floor. At the boring located within the limits of the former pit, one of the soil samples collected will be from the interval directly underlying the clean backfill placed in the area of the contaminated soil removal. Additional test borings will be performed as appropriate to determine the extent of any soil contamination identified which exceeds the NJDEP's cleanup criteria.

Plant personnel reported that a section of the floor of the #10 anodizer pit was degraded from spills of sulfuric acid. Available records do not indicate that sampling or removal of underlying soils was performed at this location during decommissioning of the pit. The pit is believed to have been backfilled with clean fill. No sampling of backfill within or soil beneath the limits of the former #10 plater pit is planned.

Plant personnel reported that the former plater #9 pit was backfilled with scrap PVC body side moldings when it was closed in approximately 1975. No information on the condition of the #9 pit lining was available. At former platers #6 and #11 and at the former Zinc Barrel plater, the plating equipment was installed in subgrade pits, and no information on the nature of the pit backfill was available although it is suspected that inert waste materials my have been used. A test boring or pit will be performed through the existing plant floor at a location within the former limits of each of these former plater pits to attempt to determine or confirm the nature of the backfill used to fill each pit. The explorations and follow-up activities will be performed in the same manner as those planned for the former #5 plater pit (described above in Section G).

As shown on Figure 2, a single test boring will be installed near the southeast corner of each of the former plating areas described in this subsection for the purpose of collecting a shallow groundwater sample adjacent to the downgradient side of the former plating operation. The test boring will be advanced with continuous soil sampling to the top of bedrock using direct push or standard drilling methods. One soil sample, or more if staining of soils is noted, will be collected from each test boring for PPM and CN analysis; samples will be collected from depths which are likely to be below the bases of the former pits. If possible an overburden groundwater sample will be collected for PPM and CN analysis from the test boring using Geoprobe, Hydropunch, or other direct-push methods. If overburden groundwater is not present, a shallow bedrock well will be installed at the test boring location and the well will be

sampled twice for PPM and CN analysis of groundwater. Well installation and sampling will be in accordance with the Technical Requirements.

If either soil or groundwater contamination which exceeds the NJDEP's cleanup criteria is identified in any of the former plating areas by the investigations described above, both soil sampling and well installations with related groundwater sampling will be performed in the area where contamination is identified. The follow-up investigations will be performed as appropriate to determine the nature and extent of contamination in accordance with the Technical Requirements.

I. Scrap Metal Handling Pits

A single overburden or shallow-bedrock well will be installed at the south end of the scrap pits located in the southwest corner of the manufacturing building. Continuous soil sampling will be performed to the top of bedrock during well installation, and one or more soil samples will be collected for TPH analysis if oil staining is observed or other evidence of potential contamination is apparent. Follow-up soil sampling in accordance with the Technical Requirements will be performed to determine the nature and extent of any soil contamination identified which exceeds the NJDEP's cleanup criteria.

The well will be installed to screen across the water table and thereby permit monitoring for the presence of LNAPL. The well will be installed and sampled twice for analysis of PPM, BN and VO in groundwater. If LNAPL is encountered it will be sampled for analysis of VO, BN, and PCBs.

J. Existing Die Cast Area

Die cast machine pits and associated sumps and trenches in the existing die cast area in Unit 5 will be cleaned and inspected during facility decommissioning, and follow-up investigation of any potential releases identified will be performed as indicated in Subsection 2.1.B above.

K. Plastisol Paint and Primer Pits

These two pits located near column A-55 were used to store Plastisol Paint and rack primer. Because these two small, 6-foot-deep, steel-lined pits may be difficult to clean and inspect, a single test boring will be performed at the closest accessible location near the pits. Continuous soil sampling will be performed to a depth of 10 feet, and one or more samples will be selected for VO analysis on the basis of VO field screening results and other field observations. Follow-up sampling in accordance with the Technical Requirements will be performed to determine the nature and extent of any soil contamination identified which exceeds the NJDEP's cleanup criteria.

L. Former Press Pits

The locations of former press pits may be identified by the removal of wood floor block from areas of the building in which press operations are known to have been conducted. The need for investigation of former press pit locations will be determined during the facility decommissioning process after inspections of the plant floor and existing pits, sumps, and trenches can be completed and the scope of any follow-up investigations of related potential releases has been determined.

M. Former Die Cast Area

The approximate location of the former die cast area is shown on Figure 2. Information on the specific location or integrity of the 23 former die-cast machine pits and other features of the former die-cast area is not available in facility records and is not known by plant personnel. Information on the nature of materials used to backfill the former die cast pits is also not available, although it is suspected that inert waste materials my have been used. It is therefore proposed that the wood floor block in this area be removed to determine whether outlines of the former pits are discernible in the underlying concrete. It is proposed that test borings or pits be then performed to locate and obtain samples of backfill material from four former die-cast pits.

The explorations and follow-up activities will be performed in the same manner as those planned for the former #5 plater pit (described above in Section G). Soil-sample-analysis parameters for any soil samples collected from beneath the former pits will include TPH, zinc, and any other contaminants detected in the pit backfill material.

A single overburden or shallow-bedrock well will be installed at the southeast corner of the former die cast area. Continuous soil sampling to the top of bedrock will be performed during well installation, and one or more soil samples will be selected on the basis of field observations for analysis of PPM, BN, and VO. Groundwater in the well will be sampled twice for analysis of PPM, BN, and VO.

If either soil or groundwater contamination which exceeds the NJDEP's cleanup criteria is identified by the investigations described above, both soil sampling and well installations with related groundwater sampling will be performed in the area where contamination is identified as appropriate to determine the nature and extent of contamination in accordance with the Technical Requirements.

N. Former Hydraulic Oil Concrete UST

This covered subgrade vault was cleaned and sealed with concrete in 1988. It has been described as a waste hydraulic-oil tank in previous case correspondence and reports; however, the vault was part of a hydraulic-oil recycling system and was not a waste tank. The recycling system was for hydraulic oil from GKN molders used to mold PVC plastic on glass components in the encapsulated glass operation. The recycling system collected leaks of

hydraulic oil in floor drains around the molders. The floor drains lead to the subgrade vault, from which the collected oil was pumped to a filter prior to recirculation to the molders.

A single test boring will be performed at the closest accessible location to the edge of the closed-in-place vault, which is located south of column G-12. Continuous soil sampling will be performed to a depth of 10 feet, and one or more samples will be selected for TPH and PCB analysis on the basis of field observations of soil conditions. Follow-up sampling in accordance with the Technical Requirements will be performed as appropriate to determine the nature and extent of any soil contamination identified above the NJDEP's soil cleanup criteria.

O. Former Wastewater Treatment System in the De-ion Building and the Concrete Containment Unit on the South Side of the De-ion Building

Drawings reviewed during the preparation of this work plan addendum indicate that the De-ion building located at the south end of the manufacturing building was formerly the location of a treatment system for wastewater from former platers #1, 2, and 3. The treatment equipment was installed in a concrete-lined, 7-foot deep pit located as shown on Figure 2. No records are known concerning the condition of the former pit when closed.

Collection of an overburden groundwater sample for PPM and CN analysis at a location downgradient of the former pit is proposed as a means to evaluate whether past releases occurred from the pit. The sample will be collected using direct push methods at a location outside the south wall of the De-ion room. Follow-up sampling in accordance with the Technical Requirements will be performed to determine the nature and extent of any contamination identified above the NJDEP's cleanup criteria.

The drawings reviewed indicate that the concrete containment unit located outside the south wall of the De-ion building, where degradation of the concrete floor documented in previous case correspondence and reports has been noted, was the site of a 4,000-gallon sulfuric acid storage tank and a 3,000-gallon storage tank for liquid caustic solution. Releases of acid stored in this unit is a possible cause for the degradation of the concrete floor of the unit. No further investigation of soil conditions in this area is proposed.

P. Solution Storage Room

The Solution Storage Room located at the southeast corner of the manufacturing building contains several ASTs for storage of liquid chemicals used in plating operations. One shallow test boring will be performed in an area of degraded concrete which is evident in the floor of this room within the containment area surrounding plating solution storage tanks. The floor slab, containment structures, and associated sumps and trenches in the plating solution storage room will be cleaned and inspected during facility decommissioning, and follow-up investigation of other apparent breaches identified in the integrity of the containment in this area will be performed as indicated in Subsection 2.1.B above.

Q. Former Gasoline UST Beneath the Solution Storage Room

Engineering drawings reviewed during the preparation of this work plan addendum indicate two possible locations for former underground gasoline storage tanks beneath the footprint of the Solution Storage Room. Two 1950 drawings (TR-1306-M1 and -M2) showing the construction plan for the acid sewer line from former platers #2 and 3 indicate that a 9,000-gallon gasoline UST was located between the FF and GG column lines 34 feet from the south wall of the manufacturing building along the 55 column line. A 1961 drawing (TR-3251-MS) showing the construction plan for the Solution Storage Room indicates that a 6-ft. by 11-ft. gasoline UST was located beneath the footprint of the EE-column-line wall separating the south air lock and the west end of the Solution Storage Room 34 feet from the south wall of the manufacturing building. The locations shown on the drawings indicate that the south edges of both tanks would have been located 6 feet north of the outside of the south wall of the Solution Storage Room. The drawn locations of the tanks are shown on Figure 2.

Specifications had been written on the original 1961 drawing for the filling of the tank beneath the EE column-line wall with sand; however, the notes specifying the filling of the tank had been erased. Other records or knowledge of how the tanks may have been abandoned or removed is not available.

Because the tanks may be in place, it is proposed that potential past releases from the tanks be investigated with a series of 5 soil and groundwater test borings along the outside of the south wall of the Solution Storage Room. Soil sampling will be performed to the top of bedrock in each boring, and selection of two to three samples per boring for VO analysis will be made on the basis of VO field screening and other field observations. Groundwater samples will be collected for VO (including xylene) analysis from each boring using direct push equipment.

Selected additional soil samples will be collected from at least one of the borings for TPH analysis to evaluate potential releases from the adjacent process sewer branch line which leads from the maintenance building. Precise locations of the UST test borings may be adjusted if appropriate to also evaluate breaches in the integrity of the Solution Storage room floor or containment structures inside the building, and additional soil samples will be selected for PPM and CN analysis if field observations indicate staining or other evidence of potential release of plating chemicals. Groundwater samples collected from the five test borings will be analyzed for PPM and CN analysis.

Follow-up sampling in accordance with the Technical Requirements will be performed as appropriate to determine the nature and extent of any contamination identified which exceeds the NJDEP's cleanup criteria.

R. Trash Compactor Area

Sumps and trenches associated located at the southeast corner of the manufacturing building will be cleaned and inspected during facility decommissioning, and follow-up investigation of apparent breaches identified in the integrity of the trenches and sumps will be performed as indicated in Subsection 2.1.B above.

2.2 Investigation Area 2

A. Former 5,000-gal. Paint Thinner/4,000-gal. Solvent AST Area

During 1998 RI sampling activities BTEX compounds and TCE were detected above applicable NJDEP criteria in two soil samples collected south of the southwest corner of the solvent AST containment structure. Figure 2 shows previous sampling locations. The sample locations were collected from depths of 8-10 ft. at two locations adjacent to a short former underground pipeline which connected the former tanks to a solvent dispensing pump located.

Engineering drawings from 1951 and 1962 showing the original construction of the solvent ASTs were reviewed during the preparation of this work plan addendum. The drawings indicate that the initial construction included one tank for storage of a solvent named Solvesso and that a second kerosene-storage tank was added in 1962. The drawings also indicate that the original floor of the tank basin was lined with crushed stone.

The drawings indicate that the solvent ASTs were originally connected to the main manufacturing building by underground piping which ran beneath the facility driveway to a pit located at column KK-44 at the west wall of the building. The piping was contained in a concrete-lined trench; the trench was sloped to a central sump which drained to the main process wastewater sewer located along the edge of the driveway. The pipe run entered the building 1.3 feet north of the KK-44 column and the depth of the pipe was 5 feet below plant floor grade. Solvent piping was overhead from the pit at KK-44 to areas of use within the plant.

To delineate the extent of the contamination a minimum of six soil borings will be advanced to refusal at the locations shown on Figure 2. One of the borings will be located adjacent to the Building at column KK-44. At least two soil samples from each boring will be collected for analysis; sample selection will be biased to depths of high FS-VOC readings or staining. All samples will be analyzed for VO compounds. Additional borings will be installed if appropriate to characterize the lateral extent of contamination.

An hydraulic-oil storage tank had been operated in the AST containment structure after the paint thinner and solvent tanks had been removed. The proposed boring locations will be biased to provide coverage of potential points of contamination by hydraulic oil. If appropriate, 1 or 2 additional sampling locations may be added to address hydraulic oil staining. Any samples collected to address the impacts by hydraulic oil will be analyzed for TPH and PAHs.

To determine potential impacts to groundwater of the observed contamination, investigation of the groundwater quality in the area of the former solvent ASTs and associated underground piping will be performed. One overburden monitoring well will be installed and associated groundwater sampling for VOs will be performed. Analysis of TPH and PAHs will be added if either are detected in soil at concentrations exceeding applicable impact to groundwater clean-up criteria.

Location of the well will be determined on the basis of soil sampling results from the proposed borings described above. The well will be installed at a location within or immediately downgradient of the limits of contamination. The well will be installed, developed, and sampled in accordance with the Technical Requirements.

B. Transformer Unit M-1 at the Primary Switch House

Additional investigation is warranted to identify the extent of PCBs in shallow soil around boring B2-3 and SB-2-SO-3. A minimum of three shallow soil samples (0.5 ft.) will be collected from locations around B2-3 and one additional deeper (2-4 ft.) soil sample will be collected from immediately adjacent to B2-3 to determine lateral and vertical extent. Proposed sample locations are presented on Figure 2. Samples collected from each boring will be analyzed for PCBs.

Area soils will be inspected for visible signs of contamination or staining and, if encountered, sampling locations may be biased toward these areas.

Haley & Aldrich understands that decontamination of the transformer and its pad will occur during facility decommissioning in accordance with ISRA requirements.

C. Area of Cinders/Slag along the Rail Spur Northwest of the Power House

Arsenic and lead at levels above NJDEP soil criteria were detected in a composite sample (GRB2-1) of slag and cinders present on the ground surface. Additional investigation is warranted to determine whether these metals are present only in the slag and cinders or whether metals have impacted the underlying fine-grained soils.

A minimum of three surface soil samples will be collected from beneath the slag and cinders in the vicinity of the GRB2-1 sample location. All samples will be analyzed for arsenic and lead and for TCLP arsenic and lead.

2.3 Investigation Area 3

A. Former No. 6 Fuel-Oil Transfer Piping

Cleaning and inspection of the pipe trenches which contain heated No. 6 fuel-oil pipe runs between the power house and the fuel-oil ASTs will be performed if the piping and trenches are not demolished and removed. Follow-up sampling will be performed as appropriate at up to 10 locations along the length of the trenches. Boring locations will be performed either in areas of soil staining apparent after demolition of the trenches or at apparent breaches in the integrity of the trenches identified by post-cleaning inspection.

All borings will be advanced to a depth immediately below the base of the containment trench. A minimum of one soil sample will be collected from each boring and submitted for TPH and BN analysis.

Follow-up sampling in accordance with the Technical Requirements will be performed as appropriate to determine the nature and extent of any contamination identified which exceeds the NJDEP's cleanup criteria.

B. Former Fuel-Oil Transfer Area

Soil contamination by TPH and BN compounds was observed in the vicinity of the former fuel-oil transfer area at the southwest corner of the Power House building. One overburden groundwater monitoring well will be installed at a location within or immediately downgradient of the area of contamination to determine the impact of apparent fuel-oil to overburden groundwater. The well will be installed, developed, and sampled in accordance with the Technical Requirements. Groundwater samples will be analyzed for TPH, TCL-VO, and TCL-BN compounds.

C. Area of Stained Pavement Adjacent to Railroad Tracks

NJDEP's written comments in its 27 January 1998 letter of conditional approval for the July 1997 RI Work Plan indicate sampling proposed for the 1998 RI activities along the railroad tracks in Investigation Area 3 was not sufficient to address potential contamination in areas of staining noted on the concrete surface west of the railroad tracks.

Two soil borings will therefore be performed in areas of stained and cracked concrete. Soil samples will be collected from each boring immediately below the concrete and any gravel sub-base and submitted for TPH, PPM, and PAH analysis. Alternatively, if concrete removal is undertaken in this area during facility demolition, the soils underlying the concrete in the stained area will be inspected and conditions will be documented. If impacted soils are present they will be sampled for TPH, PPM, and PAH analysis.

Follow-up sampling in accordance with the Technical Requirements will be performed as appropriate to determine the nature and extent of any contamination identified which exceeds the NJDEP's cleanup criteria.

2.4 Investigation Area 5 – Raw Materials Storage and Maintenance Area

A. Maintenance Building Shipping and Receiving Area and Truck Unloading Area

The drainage trenches associated with the shipping and receiving areas of the maintenance building will be cleaned and the integrity of each will be documented. The trench in the area referred to in previous case documents as the truck unloading area will be included. If the integrity of the trenches is found to be intact no further action will be taken. However, if the integrity of a trench is compromised then soil samples will be collected from immediately beneath the trench base at locations which are believed to represent the potential for past releases to the subsurface. Soil samples will be analyzed for TPH and PAH.

B. Vehicle Wash Area

The drainage trench associated with the vehicle wash area north of the maintenance building will be cleaned and its integrity will be documented during decommissioning activities. If the integrity of the trench is found to be intact, no further action will be taken.

Degraded concrete is present adjacent to the vehicle wash area trench, and soil sampling was performed in the area of most-degraded concrete during 1998 RI activities, as documented in the February 1999 Interim RI report. Results indicated that contamination above NJDEP criteria is not present in this area.

C. Raw Materials Drum Storage Pad

GM had planned to remove the concrete pavement in this area during facility demolition, and then to asses underlying soil conditions. If demolition of the pavement is not performed, the former raw materials drum pad will be inspected and soil sampling will be performed at two to three locations where the integrity of the concrete is compromised. At least one soil sample will be collected from each boring from immediately beneath the base of the concrete or its gravel subgrade, if present. In accordance with NJDEP's previous written conditions for investigation of this area, soil samples will be analyzed for TPH and PCBs.

Follow-up sampling in accordance with the Technical Requirements will be performed as appropriate to determine the nature and extent of any contamination identified which exceeds the NJDEP's cleanup criteria.

2.5 Investigation Area 7 - Die Storage Area and Former Sludge Drying Bed No. 5

A. Former Sludge Drying Bed No. 5

The lateral extent of contamination beyond boring B7-3 west of the sludge bed has not been fully delineated. PPM, BN, and VO exceedances were detected in shallow soils to 4 ft. and PPM concentrations were detected above criteria to depths of 14-16 ft.

A minimum of three soil test borings are proposed for the area around B7-3 at the locations presented in Figure 2. The borings will be advanced to refusal at the top of bedrock and a minimum of two samples per boring will be collected, screened for FS-VOC, and analyzed for TPH, VO, BN, and PPM constituents. Samples will be collected from depths based on the presence of elevated FS-VOC readings, staining, or other visible soil conditions which may warrant sampling, or will otherwise be collected at depths similar to the intervals in which contaminants were detected in B7-3 samples to provide lateral and vertical delineation. If possible, the location of the northern-most boring may be adjusted to provide simultaneous coverage of Motor Storage Area investigation locations (see section 2.5.C below).

Overburden monitoring well MW-22 was installed during 1998 RI activities but was dry during the October 1998 sampling event. If groundwater is present in the well, MW-22 will

be sampled twice and the samples analyzed for TAL Metals plus cyanide, TCL-VO, TCL-BN, and TCL-PCBs. If MW-22 is dry and sampling is not possible, a shallow bedrock monitoring well will be installed at an adjacent location and sampled twice for analysis of the MW-22 parameters.

B. Drainage Swale South of Die Storage Area/Sludge Bed No. 5

Sediment samples S7-1 and S7-2 collected during 1998 RI activities were not analyzed for Total Organic Carbon due to laboratory error. Sediment samples from previous locations S7-1 and S7-2 will be recollected and analyzed for TOC.

C. Area of Concrete Staining in Motor Storage Area

NJDEP comments indicate sampling proposed for the 1998 RI activities in the vicinity of the Motor Storage Area in Investigation Area 7 is not sufficient to address concrete staining noted near the Motor Storage Area. Staining on the concrete apparently coincides with the location of a drain.

GM had planned to remove the concrete pavement in this area during facility demolition, and then to asses underlying soil conditions. If demolition of the pavement is not performed, one soil boring will be performed in the area of stained concrete near the drain. A minimum of one soil sample will be collected from immediately below the concrete and submitted for TPH, PPM, PCB, and BN analysis in accordance with NJDEP's previous written conditions for investigation of this area.

2.6 Investigation Area 8 - Wastewater Treatment Plant

A. Transformer Substation No. 14

Each of the four 1998 RI surface soil samples collected from around the former electrical substation pad contained detectable levels of PCBs. PCBs in sample B8-10 (3.1 ppm) was the only exceedance of the criterion of 0.49 ppm.

Three supplemental shallow (0.5 ft.) soil samples and one deeper soil sample (2-4 ft.) are proposed for the area surrounding 1998 RI sample location B8-10. Sample depths will be referenced from the bottom of the concrete slab or its gravel subgrade, if encountered (a concrete roadway to the WWTP runs northwest-southeast immediately north of the substation). All samples will be analyzed for PCBs.

Haley & Aldrich understands that decontamination of the transformer and its pad will occur during facility decommissioning activities and that GM will address the removal of the transformer and contaminated foundation concrete and soils at this location in accordance with ISRA requirements.

In addition, the condition of soils underlying the foundation pad of the transformer substation will be inspected and documented subsequent to the pad's removal during the facility decommissioning process, and, if warranted, sampling of the soils for PCBs analysis will be performed.

B. Former Process Wastewater System Sump, Parshall Flume, and Retention Box

These structures were noted in the 1993 site inspection to be of questionable integrity. The integrity of concrete portions of these structures exposed at the ground surface is currently degraded. It is not known whether the integrity of the subgrade portions of these structures is sound, nor is it known whether the integrity of each was sound at the time it was last in service or last contained oil or wastewater.

These features and all other current and former subgrade wastewater pits, sumps, and trenches will be cleaned and inspected for integrity during facility decommissioning. If the features are determined to be of sound integrity then no further action will be taken.

If breaches in the integrity of the structures are identified, then 1 or 2 soil borings will be conducted and soil samples will be collected at locations which are believed to represent a potential for past releases to the underlying soils. Soil borings will be located within 2 feet of the downstream side of the structure(s), and one soil sample will be collected from each boring at a depth immediately below the bottom of the structure(s). In accordance with NJDEP's previous written conditions for investigation of these features, all soil samples will be analyzed for TPH, PPM, BN, VO, CN, and pH.

Follow-up sampling in accordance with the Technical Requirements will be performed as appropriate to determine the nature and extent of any contamination identified which exceeds the NJDEP's cleanup criteria.

C. Sump in the Containment basin for 11,000-gallon Waste Oil AST

The integrity of the sump within the containment basin for the 11,000-gal. waste oil AST was questioned in the 1993 site inspection. The sump was cleaned, inspected, and photographed during 1994 RI activities, and no significant breaches in the integrity of the sump were identified.

GM's facility decommissioning process will include recleaning and/or demolition of this structure. Results of inspection of the structure after cleaning or of underlying soil conditions after demolition will be provided to the NJDEP. If warranted, soil sampling will be performed beneath the decommissioned sump at a depth immediately below the bottom of the sump. Soil sample analysis will include TPH, PPM, BN, VO, and PCBs.

D. Eight Neutralization Tanks

The eight neutralization tanks will be cleaned and inspected for integrity during facility decommissioning. Any breaches in the tank integrity will be documented with photographs. If the tank construction is of sound integrity then no further action will be taken.

GM's plans for decommissioning of the facility include possible demolition and removal of the neutralization tanks. If the walls or bottoms of the tanks appear to be of questionable integrity then the soils underlying the tanks will be sampled when the tanks are removed, and, if warranted, contaminated soils will be excavated and removed for offsite disposal. This procedure will reflect the procedure used at the site during 1996 and 1997 to evaluate and remediate soils during the excavation and removal of the old oil-water separator (MOA Area B). Soil samples will be analyzed for PPM, BN, VO, CN, PCBs, and pH.

Alternatively, if demolition is not performed, soil borings will be performed at locations of breaches in the concrete which are believed to have potentially resulted in past releases to the subsurface. At least one soil sample will be collected from each boring at a depth immediately below the base of the tank bottom. If practicable, soils will be sampled from lower depths to evaluate soil conditions beneath any observed impacts to soil based on visual observations (e.g. discoloration, staining, elevated VOCs-screening readings, and oily soils, if present).

E. Former Trash incinerator

Two previous borings were performed to investigate potential contamination in this area. The area of the former trash incinerator is currently paved. GM's plans for facility decommissioning may include removal of the pavement in this area. If the pavement is removed, underlying soil conditions will be inspected and documented to attempt to confirm that the previous investigations have adequately characterized potential contamination from the incinerator. If soil conditions warrant, soil sampling will be conducted. Any soil samples collected will be analyzed for PAH and PPM.

F. Old Oil-Water Separator

NJDEP's conditions for approval of the July 1997 RI work plan included a requirement for additional lateral and vertical delineation of contamination in the area of the old oil-water separator. Post-excavation soil samples MOA-B-S13, -14, -16, MOA-B-BS2 and -BS5 contained arsenic, nickel, and PCBs above applicable criteria.

GM's plans for facility decommissioning may include demolition and removal of the adjacent new oil-water separator. If demolition and removal is performed, 3 soil samples will be collected from the east sidewall of the excavation at locations near previous sample locations MOA-B-S13 and -14, which had been collected in the west sidewall of the excavation for the old oil-water separator and in which PCBs at concentrations of 1 ppm or less were detected. If demolition of the new separator is not performed, one or more borings will be installed to complete the delineation of PCBs in soil in this area. Soil samples will be collected from appropriate intervals and analyzed for PCBs.

One soil boring will be performed approximately 5 feet north of the location of previous sample MOA-B-BS2. The boring will be advanced to the top of bedrock, and samples from depths of 6 and 12 feet, and other intervals if appropriate based on visual observations of soil conditions, will be collected for analysis of arsenic and cadmium. Additional sampling will be performed if results warrant.

One soil boring will be installed approximately 20 feet north of the location of previous sample MOA-B-S16. The boring will be advanced to the top of bedrock, and a minimum of one soil sample will be collected (plus others as appropriate based on visual observation of soil conditions) from a depth of 6 feet for analysis of nickel and PCBs. Additional sampling will be performed if results warrant.

G. Groundwater Quality in the WWTP area

Cyanide was detected above NJDEP's groundwater quality standard in the 1998 RI groundwater sample from Area 8 monitoring well MW-11. To assess the presence of cyanide in groundwater in this area, MW-11 and other Area 8 wells (including MW-7, -7A, -9, -9A, -10, and -12) will be sampled and analyzed for CN. All wells will be sampled in accordance with the Technical Requirements.

Installation and sampling of overburden and bedrock monitoring wells at the southeast corner of the Area 9 parking lot is proposed below in Section 2.7 of the work plan addendum, and installation and sampling of a bedrock monitoring well south of Sludge Bed No. 1 is proposed below in Section 2.8 of the work plan addendum. Installation and sampling of these wells will provide information on groundwater quality at and downgradient of the east end of the WWTP.

2.7 Investigation Area 9 - Power House Parking Lot and Former Empty Basket Storage Area

A. Northern Edge of Parking Lot

At the northeast corner of the parking lot, previous 1998 RI sample location B9-2 contained PAH and PPM compounds at concentrations above NJDEP criteria at a depth of 0.5 ft.

A minimum of three supplemental shallow soil samples (0.5 ft.) will be collected in the area surrounding B9-2. One additional deeper soil sample (2-4 ft.) will also be collected at a location immediately adjacent to B9-2 to provide vertical delineation. All samples will be analyzed for PAH and PPM compounds. Proposed sample locations are presented on Figure 2.

B. Site Fill

Fill materials consisting of soil-matrix fill, construction-and-demolition debris, and manufacturing by-products was observed within soil boring and test pit explorations in Investigation Areas 8, 9, and 10. A single empty drum was observed in Area 9 test pit TP9-2.

A significant number of explorations have been performed in fill areas of Areas 8 and 10, but previous investigation in Area 9 has addressed only a small portion of the former fill area. To address the possible presence of drums within the fill material and to characterize more fully the nature of the materials in the fill, supplemental investigation of this area will be performed.

An electromagnetic (EM) geophysical study is proposed for the Area 9 parking lot to determine whether additional drums or other buried metal objects are present in the fill. The survey will be performed using a Geonics EM-61 high-sensitivity time-domain metal detector capable of detecting buried metal objects at depths of up to 7 to 10 feet.

The Area 9 parking lot is approximately 800 x 500 feet in size. The proposed survey grid will have a line spacing of 10 feet; the wheel-based EM-61 unit collects readings automatically at spacings of 20 centimeters (8 inches) as it is pulled along each survey line.

Up to 10 soil test borings are proposed to follow-up geophysical anomalies indicated by the EM survey. At least one sample will be collected from the fill zone in each of the test borings. Soils will be analyzed for TPH, PPM, and BN, and VO and PCBs where visual or FS-VOC screening indicates sampling is warranted (i.e. elevated field VOC screening readings, presence of staining, oily soils, etc.).

Investigation of groundwater quality will also be performed. Three overburden and one bedrock groundwater monitoring wells are planned for the Area 9 parking lot to assess the impacts of the fill materials on groundwater and to provide additional information on the hydraulic gradients in overburden and bedrock in this area of the site.

A single overburden well will be installed immediately downgradient of previous test pit location TP9-3 where PPM, BN, VO and PCBs were detected in fill material above NJDEP soil cleanup criteria. Two other overburden wells and one bedrock well will be installed along the eastern edge of the Area 9 parking lot. Proposed locations are shown on Figure 2. Wells will be installed, developed, and sampled in accordance with the Technical Requirements. Groundwater samples will be collected on two occasions for analysis of TCL VO +10 TICs, TCL BNA +20 TICs, TCL PCBs, and TAL metals plus cyanide.

2.8 Investigation Area 10 - Former Sludge Drying Beds Nos. 1-4

A. Gold Run Downstream of Area 9 Parking Lot Drain Outfall

1998 RI sediment sample S10-1 contained chromium, copper, nickel, lead, and zinc above sediment standards. Supplemental sampling of sediment for PPM analysis in Gold Run

downstream of the S10-1 location is proposed. One sediment sample will be collected at a location downgradient of previous sample location S10-1 and upgradient of the confluence of Gold Run and the drainage swale running east along the southern boundary of the site. The sediment sample will be analyzed for PPM.

In addition, sediment will be recollected from previous 1998 RI sample location S10-1 and analyzed for TOC, which was inadvertently omitted during 1998 RI analyses.

Figure 2 shows proposed sample locations.

B. Wooded Area Surrounding Sludge Beds

Debris present on the ground surface in the wooded areas adjacent to the sludge beds will be removed during the facility decommissioning process. Once the materials are removed the underlying soils will be inspected and documented. If observations of the nature or contents of the debris or conditions of underlying soil indicate that investigations of potential contamination are warranted, soil samples will be collected. Soil sample analysis will be determined by the nature of the debris and the soil conditions observed.

C. Groundwater Quality in the Area of the Sludge Beds

One bedrock well is proposed for the vicinity of south side of Sludge Bed No. 1 to assess bedrock groundwater quality downgradient of the sludge beds. The proposed well location is shown on Figure 2. The well will be installed, developed, and sampled in accordance with the Technical Requirements. The well will be sampled twice for analysis of TAL metals plus cyanide, TCL-VO, TCL-BN, and TCL-PCB compounds.

2.9 Former Drum Burial Area in Investigation Area 11

Supplemental groundwater sampling is proposed for Investigation Area 11 at locations up- and down-gradient of the former barium-chromate drum-removal excavation. 1998 RI groundwater sampling results from monitoring well MW-21, installed adjacent to the downgradient side of the excavation, indicated elevated levels (0.81 ppm) of chromium in overburden groundwater. Two additional overburden wells will be installed at locations east and west of MW-21, as shown on Figure 2, and MW-21 and the two new wells will be sampled twice for PPM and VO analysis.

2.10 Site-wide Groundwater Quality and Gradients

All existing wells at the site for which sampling of groundwater was not specifically proposed above will sampled for analysis of groundwater for TCL VOs and PPM. Groundwater level measurements will be performed at all new and existing wells during one or more site-wide, single-day measurement events.

III. QUALITY ASSURANCE/QUALITY CONTROL

The purpose of this Quality Assurance/Quality Control (QA/QC) Plan is to document the procedures that will be implemented to ensure the quality, representativeness, and completeness of data generated during the supplemental sampling activities.

All collection and analysis of soil and groundwater samples will be performed using current NJDEP or USEPA accepted field and laboratory protocol.

3.1 Sampling Equipment/Decontamination

All sampling equipment (e.g. split spoons, trowels, hand augers, pumps) will be constructed of stainless steel or other acceptable material. To reduce the possibility of cross-contamination of samples, all sampling and measuring equipment will be decontaminated prior to use. Sampling equipment will be decontaminated in the field using methods in accordance with protocol in NJDEP's July 1994 "Field Analysis Manual" and May 1992 "Field Sampling Procedures Manual".

3.2 Field Quality Control Samples

Quality Control (QC) samples will be collected throughout the field investigation. These samples will serve as controls to check on cross-contamination which may occur in sample handling, storage, or shipment. In particular, the QC samples will provide quality checks on bottle preparation, equipment decontamination, ambient conditions, and blank water quality.

Trip blanks, consisting of analyte-free water in 40 milliliter (ml) vials, will be provided by the laboratory. Trip blanks will travel to the site with the empty sample bottles and will be shipped back to the laboratory from the site with the collected samples. The trip blanks will be analyzed for VO only and will be required only when samples are collected for VO analysis. Trip blanks will accompany samples at a rate of one per shipment or two-day sampling event as appropriate.

Field blanks for all matrices will be aqueous rinseate blanks. Analyte-free water from the laboratory will be passed through decontaminated sampling equipment and collected in the appropriate empty sample bottle. One field blank will be collected per day per matrix and will be analyzed for the same parameters as their associated matrix.

Duplicate samples will be collected from each matrix for five percent of the regular samples. The duplicate samples will be collected at the same location and, if possible, from the same sample aliquot as the original sample. The duplicate samples will be labeled so the laboratory is not aware that they are duplicates. Extra sample volume will be collected for matrix spike/duplicate analysis.

3.3 Sample Bottles/Preservation

Sample bottles (containing preservatives as required) will be supplied by the laboratory. Sample bottle and preservation requirements are listed below.

Analyte	Max. Holding Time	Sample Bottle (Aqueous/solid)/Preservative
Volatile Organics (VO)	10 days	Glass vial with Teflon-lined septum/HCl (aq. only), or wide-mouth glass jar with Teflon liner (soil). Cool 4° C.
Base Neutrals (BN)	5 days to extract, 40 days to analyze	Amber glass bottle with Teflon liner (aq. Only), or wide mouth glass jar with Teflon liner (soil). Cool 4° C.
Metals (PPM)	6 months	Plastic or glass bottle HNO_3 (aq. only), or wide-mouth glass jar (soil). Cool 4° C.
Cyanide (CN)	12 days	Glass or plastic bottle NaOH (aq. only) or wide-mouth glass jar (soil). Cool 4° C.
Petroleum Hydrocarbons (TPH)	aq. 7 days, solid 28 days	Glass bottle HCl (aq. Only) or wide-mouth glass jar with Teflon liner (soil). Cool 4° C.
PCBs	5 days to extract, 40 days to analyze	Glass bottle (aq.) or wide-mouth glass jar with Teflon liner (soil). Cool 4° C.

3.4 Sample Custody and Shipment

Sample custody will be documented by the field team from the time the samples are collected until the samples are shipped to the laboratory. Sample bottles will be labeled, sealed, and packed on ice for shipment to the laboratory. Chain of custody forms will accompany the samples. All pertinent sample information will also be recorded in the field notebook. Samples will be shipped to the laboratory on the same day they are collected whenever possible.

3.5 Analytical Laboratory and Methods

All samples will be analyzed by an NJDEP-certified laboratory. Analysis of all samples will be performed according to USEPA SW-846 methods or aqueous-sample 600-series methods. For GC/MS methods, library searches will be performed.

Analytical results and associated quality assurance (QA) information will be supplied in a Tier II/ECRA format, consistent with the deliverable requirements outlined in the NJDEP Technical Requirements for Site Remediation, Proposed New Rules: N.J.A.C.7:26E (New Jersey Register, May 1992). The data packages will include results summary sheets, chains of custody, laboratory chronicles, methodology summaries, non-conformance summaries and other required analytical documentation (method blanks, tuning, calibration, spike recovery, detection limits).

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REFERENCES

1. McLaren/Hart Environmental Engineering Corporation, "Site Evaluation Submission (SES), for Inland-Fisher Guide Division of General Motors Corporation, Trenton, New Jersey Facility, ECRA Case No. 92713," March 9, 1993.

2. McLaren/Hart Environmental Engineering Corporation, "ISRA Remedial Investigation Plan, Inland-Fisher Guide Division, General Motors Corporation, 1445 Parkway Avenue, Trenton, New Jersey, 08650-1019, ISRA Case No. 92713," September 3, 1993.

3. URS Consultants, Inc., "Preliminary Assessment/Site Investigation Report, Proposed Remedial Investigation Work Plan, Delphi Interior & Lighting Systems Division, General Motors Corporation, 1445 Parkway Avenue, Trenton, New Jersey, 08650-1019, Case No. 95-2-22-1407-48," May 1996.

4. Haley & Aldrich of New York, "Preliminary Assessment Report, Delphi Interior & Lighting Systems Division, General Motors Corporation, Trenton, New Jersey, ISRA Case No. 97070," May 1997.

5. Haley & Aldrich of New York, "Remedial Investigation Report, MOA Case No. 95-2-22-1407-48, Delphi Interior & Lighting Systems Division, General Motors Corporation, Trenton, New Jersey," July 1997.

6. Haley & Aldrich of New York, "Remedial Investigation Work Plan, Delphi Interior & Lighting Systems Division, General Motors Corporation, Trenton, New Jersey, ISRA Case No. 97070," July 1997.

7. URS Greiner, Inc., "1994 Remedial Investigation Data Summary Report, Delphi Interior & Lighting Systems Division, General Motors Corporation, Trenton, New Jersey," July 1997.

8. Haley & Aldrich of New York, "Interim Remedial Investigation Report, Former Delphi Interior & Lighting Systems Division, General Motors Corporation, Trenton, New Jersey, ISRA Case No. 97070," February 1999.

TABLE I
SAMPLING AND ANALYSIS SUMMARY
REMEDIAL INVESTIGATION WORK PLAN ADDENDUM

FORMER DELPHI INTERIOR & LIGHTING SYSTEMS DIVISION
GENERAL MOTORS CORPORATION
TRENTON, NEW JERSEY

Invest. Area	Area of Concern	Location	Number and type of Explorations	Est. No. of Samples	Sample Medium	Exploration Depth (Ft.)	Analyses
1	Process Wastewater Sewer Lines and Manhole	Along main trunk and 8 branch lines	22 borings	22	Soil (from sewer bedding if possible)	4 ft. below sewer invert or Top of Bedrock (TOR)	TPH, PPM, CN, ± VO
		At East side of Main Bldg.	Well Installation and GW Sampling	2	Groundwater	To be determined (TBD)	PPM, CN, TCL BN+20 TCL VO+10
	Existing Plater #12 Pit	Within Pit Footprint	5 borings	5	Soil	6-12" below base of concrete	PPM, CN
		South side of Pit	1 boring	1	Soil	TOR	PPM, CN
				1	Groundwater	Overburden	PPM, CN
	Existing Black Phosphating System/Former Plater #5 Pit	Within Pit Footprint	1 boring or test pit	Min. 1	Pit backfill, possibly underlying soil	To be determined (TBD)	Backfill: TBD Underlying Soil: PPM, CN, others TBD
		SE of SE Corner of Pit	1 boring	1	Groundwater	Overburden	PPM, CN
				Min. 1	Soil	TOR	PPM, CN
	Former Plater #7 Pit	Within Pit Footprint	1 borings	Min. 1	Soil below clean backfill	TOR	PPM, CN
		Around East end of Pit Footprint	3 borings	Min. 3	Soil below former base of pit	TOR	PPM, CN
		SE of SE Corner of Pit	1 boring	1	Groundwater	Overburden	PPM, CN
				1	Soil	TOR	PPM, CN
	Former Plater Pits 6, 9, 11 and Former Zinc Barrel Plater Pit	Within Pit Footprints	4 borings or test pits	Min. 4	Pit backfill, possibly underlying soil	TBD	Backfill: TBD Underlying Soil: PPM, CN, others TBD
		SE Corner of Pits 6, 9, 11 and Former Zinc Barrel Plater Pit	4 borings	4	Soil	TOR	PPM, CN, others TBD
				4 to 8	Groundwater	To be determined	PPM, CN, others TBD

Invest. Area	Area of Concern	Location	Number and type of Explorations	Est. No. of Samples	Sample Medium	Exploration Depth (Ft.)	Analyses
	Former Platers #1, 2, 3, 4, 8, and 10	SE of SE Corner of Pits	6 borings	6	Soil	TOR	PPM, CN
				6 to 12	Groundwater	To be determined	PPM, CN
	Scrap Metal Handling Pits	South End of Pits	Well Installation, GW Sampling, and monitoring for LNAPL	Min. 1	Soil	TOR	TPH
				2	Groundwater	To be determined	PPM +CN, TCL BN+20, TCL VO+ 10, ± TCL PCBs
	Plastisol Paint and Primer Pits	Adjacent to Pits	1 boring	Min. 1	Soil	10	VO
	Former Die Cast Area	Within Each of 4 pits	4 borings or test pits	4	Pit backfill, possibly underlying soil	TBD	Backfill: TBD Underlying Soil: TPH, Zinc, others TBD
		SE of SE Corner of Pit	Well Installation and GW sampling	Min. 1	Soil	TOR	PPM, BN, VO, others TBD
				2	Groundwater	TBD	PPM, CN, TCL VO+10 TCL BN+20
	Former Hydraulic Oil UST	Near Edge of Tank	1 boring	Min. 1	Soil	10	TPH, PCBs
	Former Wastewater Treatment System in De-Ion Bldg.	Downgradient of former pit – outside south wall of De-Ion room	1 boring	1	Groundwater	Overburden	PPM, CN
	Solution Storage Room	Area of degraded concrete	1 boring	Min. 1	Soil	10	PPM, CN
	Possible Former Gasoline UST locations Beneath Solution Storage Room	South of UST locations	5 borings	10 to 15	Soil	TOR	VO, TPH, ± PPM and CN
				5	Groundwater	Overburden	TCL VO+10 PPM+CN
2	Primary Switch House	Around previous location B2-3	1 boring	1	Soil	4	PCBs
			3 borings	3	Soil	0.5	PCBs
	Area of Slag and Cinders	Around railroad spur	3 subsurface samples	3	Soil	0.5	Total As, Pb, TCLP As, Pb

Invest. Area	Area of Concern	Location	Number and type of Explorations	Est. No. of Samples	Sample Medium	Exploration Depth (Ft.)	Analyses
	Former 5,000-gal. Paint thinner and 4,000-gal. Solvent ASTs	Around ASTs and associated pump island and piping	6 borings	12	Soil	(TOR)	VO, ± TPH and PAHs
			1 well	2	Groundwater	Overburden	VO +10, ± TPH and PAHs
3	No. 6 Fuel-Oil Piping Trench	Along length of pipeline	To be determined (TBD) up to 10	TBD 10	Soil	Base of Concrete Containment Trench	TPH, BN
	One new Overburden well at former Fuel-Oil Transfer Area	Downgradient of former Fuel-Oil Transfer Area	Initial Sampling	1	Groundwater	Overburden	TPH, TCL BN+20, TCL VO+10
	Area of Stained Concrete west of Railroad Tracks Near 500,000-gal. Fuel-Oil AST	Areas of staining on pavement at cracks or joints	2 borings	2	Soil	Immediately below base of pavement	TPH, PPM, PAH
5	Raw Materials Drum Storage Pad	Areas of stained and degraded concrete	2 or 3 borings	2 or 3	Soil	Immediately below base of concrete	TPH, PCBs
7	Drainage Swale	Previous locations S7-1 and S7-2	2 samples	2	Sediment	NA	TOC
	Motor Storage Area	Concrete staining near drain	1 boring	1	Soil	Below pavement and/or invert of drain	TPH, PPM, BN, PCBs
	Former Sludge Drying Bed No. 5	Around previous location B7-3	3 borings	6	Soil	TOR	TPH, PPM, VO, BN
	Groundwater quality downgradient of Sludge bed	MW-22	Sampling of GW if possible	2	Groundwater	Overburden	TAL metals, CN, PCBs, TCL VO+10 TCL BN+20
		Adjacent to MW-22	Installation, sampling of shallow bedrock well if necessary	2	Groundwater	Bedrock	
8	Substation #14	Around previous location B8-10	3 samples	3	Soil	0.5	PCBs
			1 sample	1	Soil	4	PCBs
	Integrity of Former Process Sewer Structures	Sump, Parshall flume and retention box	TBD	TBD	Soil	Below invert of structures	TPH, PPM, BN, VO, CN, pH

Invest. Area	Area of Concern	Location	Number and type of Explorations	Est. No. of Samples	Sample Medium	Exploration Depth (Ft.)	Analyses
8, cont.	Eight Neutralization Tanks	Integrity of tank walls and base	TBD	TBD	Soil	Sidewall and base, confirmation samples	PPM, BN, VO, PCBs, CN, pH,
	Old Oil-Water Separator-MOA Area B	Between MOA-B-BS2 and -BS5	1 boring	1	Soil	10 ft.	PPM
		East of -BS2	1 boring	1	Soil	6 ft.	PPM
		North of -S16	1 boring	1	Soil	6	PPM, PCBs
		West of -S13 and -S14	Samples from excav. of new O/W Separator	2	Soil	6 ft.	PPM, PCBs
	Area 8 groundwater quality	MW-11 and other Area 8 wells	Resample	7	Groundwater	NA	Total CN
9	Past storage of equipment in empty basket storage area parking lot	Northeast corner of empty basket storage area parking lot	3 borings	3	Soil	0.5	PPM, PAH
			1 boring	1	Soil	4	PPM, PAH
	Site fill	Geophysical survey across Area 9 parking lot	EM-61 survey	NA	NA	NA	NA
		EM-survey-follow-up test borings	10 borings	10	Soil	Top of native soil	TPH, PPM, BN, (+VO and PCBs)
	Groundwater quality	Downgradient of TP 9-3 and the Area 9 parking lot	3 new overburden wells and 1 new bedrock well	8	Groundwater	Various	TAL Metals, CN, PCBs, TCL VO+10 TCL BN+20
10	Sediment in Gold Run downstream of the Area 9 Parking-Lot-Drain Outfall	Downstream of previous location S10-1	1 sample	1	Sediment	NA	Pb
		Previous location S10-1	1 sample	1	Sediment	NA	TOC
	Wooded Area around Sludge Beds	Beneath debris	TBD	TBD	Soil	TBD	TBD
	Groundwater Quality downgradient of Sludge Beds	South of Sludge Bed No. 1	Bedrock Well Installation and GW sampling	2	Groundwater	Bedrock	TAL Metals, CN, PCBs, TCL VO+10 TCL BN+20
11	MOA Area A – drum removal area	MW-21	Resample	2	Groundwater	Overburden	PPM, VO

Invest. Area	Area of Concern	Location	Number and type of Explorations	Est. No. of Samples	Sample Medium	Exploration Depth (Ft.)	Analyses
11, cont.		Upgradient and downgradient of MW-21	Install and sample 2 new overburden wells	4	Groundwater	Overburden	PPM, VO
Site GW	Sitewide	All remaining site wells	Resample	31	Groundwater	Overburden and Bedrock	PPM, VO

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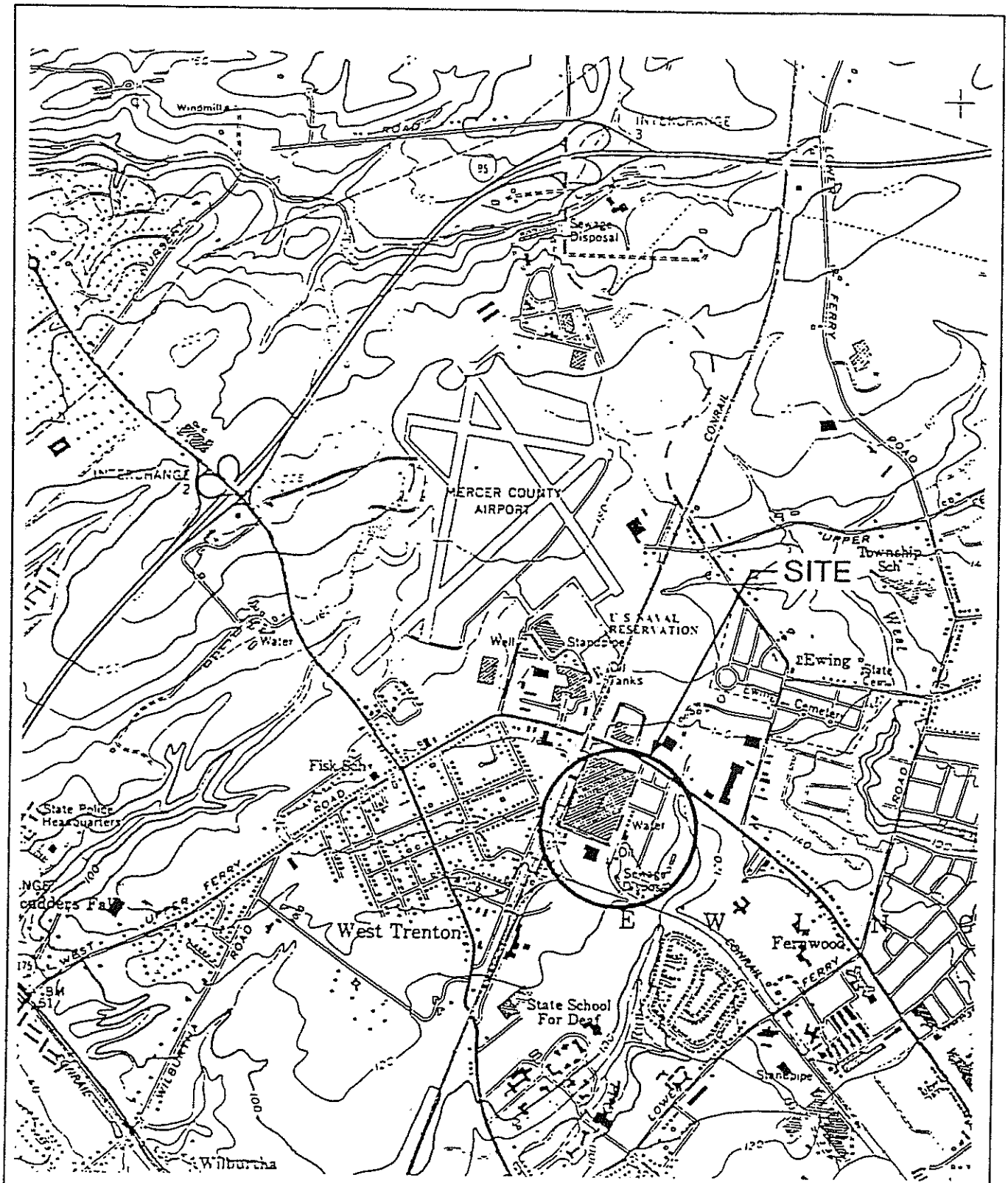
TABLE II
PROPOSED SCHEDULE
REMEDIAL INVESTIGATION WORK PLAN ADDENDUM
GENERAL MOTORS CORPORATION, TRENTON, NEW JERSEY

TASK	MONTH 1	MONTHS 2 - 4	MONTHS 5 and beyond
1 NJDEP REVIEW AND WORK PLAN APPROVAL	X		
2 INVESTIGATION PROGRAM IMPLEMENTATION			
A Arrange for Subcontractors			
B Mobilize and conduct field work in outdoor areas where activities planned are not subject to prior facility decommissioning activities			
C Facility Decommissioning Activities		Schedule to be determined	
D Conduct investigations in areas subject to facility decommissioning activities		Schedule to be determined	
E Laboratory Analyses			
3 ASSEMBLE DATA AND PREPARE Supplemental RI REPORT			


Windmill
INTERCHANGE 3
95
Sewage Disposal
FERRY
CONRAIL
ROAD
INTERCHANGE 2
MERCER COUNTY AIRPORT
UPPER
Township Sch
SITE
U S NAVAL RESERVATION
Well
Standpipe
Water
Tanks
Ewing
State Cem.
Ewing Cemetery
WEBB
Fisk Sch
ROAD
State Police Headquarters
Water
Sewage Disposal
NGSP
Cadders Fall
UPPER FERRY ROAD
West Trenton
WEST
Fernwood
CONRAIL
FERRY
State School For Deaf
Standpipe
LOWER
WILBURTHA
Wilburtha
NEW JERSEY
-N-
QUADRANGLE LOCATION: PENNINGTON, N.J.
HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS
REMEDIAL INVESTIGATION WORK PLAN
GENERAL MOTORS CORPORATION
TRENTON, NEW JERSEY
PROJECT LOCUS
SCALE: AS SHOWN
70613
FIGURE 1

REFERENCES:

1. PLAN ENTITLED "GORE-SORBER" (T.M.) LOCATION PLAN OF LOT 1, SECTION 343, SITUATED IN, EWING TOWNSHIP, MERCER COUNTY, N.J." PREPARED BY HOPEWELL VALLEY ENGINEERING, P.C. DATED JUNE 6 1998.
2. PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY FOR GENERAL MOTORS CORPORATION, 1445 PARKWAY AVENUE, TRENTON, N.J." PREPARED BY ROBERT W ENT, INC. DATED AUGUST 8, 1993 AND REVISED TO OCTOBER 19, 1993.

NOTES:

1. SUBJECT OT EASEMENTS AND MATTERS OF RECORD.
2. VERTICAL AND HORIZONTAL DATUM BASED ON NEW JERSEY STATE PLANE.
3. SAMPLE LOCATIONS PERFORMED BY HALEY & ALDRICH, ROCHESTER, N.Y. AND FIELD LOCATED BY HOPEWELL VALLEY ENGINEERING, P.C. LOCATIONS B10-3, B10-7, B2-3 THROUGH B2-7, B5-1, S/SW11-1, S/SW11-3, S/SW11-6, S/SW11-7 AND S11-8 WERE NOT SURVEYED AND ARE APPROXIMATE LOCATIONS ONLY.
4. 1987 GASOLINE UST AREA SOIL SAMPLE LOCATIONS CONDUCTED BY LAWLER, MORTUSKY & SKELLY ENGINEERS, JULY 1987.
5. 1994 RI SAMPLE LOCATIONS WERE SAMPLED BY URS-GREINER INC., 7 FEBRUARY THROUGH 30 APRIL 1994. LOCATIONS ARE PRESENTED BASED ON COORDINATES DEPICTED ON FIGURES CONTAINED IN THE URSG REMEDIAL INVESTIGATION DATA REPORT DATED JULY 1997.
6. 1996 MOA INVESTIGATION SAMPLE LOCATIONS WERE CONDUCTED BY HALEY & ALDRICH, NOV.-DEC. 1996 AS PART OF MOA AREA B ACTIVITIES AS OUTLINED IN HALEY & ALDRICH JULY 1997 REMEDIAL INVESTIGATION REPORT, MOA CASE NO. 95-2-22-1407-48.
7. 1998 RI SAMPLE LOCATIONS CONDUCTED BY HALEY & ALDRICH FROM THE PERIOD OF 6 JULY THROUGH 5 AUGUST 1998 FOR SOIL/SEDIMENT/SURFACE WATER SAMPLE LOCATIONS. GROUNDWATER SAMPLES WERE COLLECTED BY ENVIRONMENTAL FIELD SERVICES AND EMSL ANALYTICAL DURING THE PERIOD 26 THROUGH 30 OCTOBER 1998.
8. REFER TO TEXT FOR ADDITIONAL INFORMATION.

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

ADDENDUM TO REMEDIAL INVESTIGATION WORK PLAN
ISRA CASE NO. 97070
GENERAL MOTORS CORPORATION
TRENTON, NEW JERSEY

SUPPLEMENTAL REMEDIAL INVESTIGATION SAMPLING LOCATION PLAN

SCALE: AS SHOWN

MAY 1999

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FIGURE 2