

UNDERGROUND STORAGE TANK INVESTIGATION PHASE 2

General Motors Corporation – Fisher Guide Division
Trenton, New Jersey

June 1988



UNDERGROUND STORAGE TANK INVESTIGATION
PHASE II

GENERAL MOTORS CORPORATION - FISHER GUIDE DIVISION
TRENTON, NEW JERSEY

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SECTION 1

INTRODUCTION

In 1987, a 4,000 gallon underground gasoline storage tank was observed to be leaking at the GMC-Fisher Guide, Trenton, New Jersey plant. The tank was promptly removed from service and excavated, thereby completing source removal. The total quantity of product lost to the environment is not known.

An initial investigation of the release was performed in October, 1987 consisting of 11 soil borings through the overburden, collection and field screening of split-spoon samples and laboratory analysis of eight soil samples. Only one monitoring well was installed since the water table was not encountered in other borings. The well was not sampled due to an insufficient quantity of water.

Results of the field screening and laboratory soil analyses indicated that subsurface soil contamination associated with the underground storage tank release was concentrated at a depth interval of 12 to 16 feet below the surface, immediately above the top of bedrock. Petroleum hydrocarbons were detected in the soil at concentrations up to 1,650 parts per million (ppm) immediately adjacent to the former tank area. Benzene, toluene and xylene (primary components of gasoline) were found to range at concentrations up to 41.4, 380 and 354 ppm, respectively. The primary area of impact was determined to be southeast of the tank site (Lawler, Matusky and Skelly, Eng., 1987).

Based on the results of the initial site investigation, a second phase of work was scoped to include:

- o Installation of four bedrock monitoring wells in the Stockton Formation; one upgradient and three downgradient of the former gasoline storage tank. Down-gradient direction was interpreted to be south-southeast of the tank based on initial investigation results and data from monitoring wells around past disposal units along the eastern portion of the site.
- o Potential installation of a fifth monitoring well based on field screening of drill cuttings from the first four wells for total volatile organic compound (VOC) vapors.

- o Collection of groundwater samples from all new monitoring wells;
- o Analysis of groundwater samples for petroleum hydrocarbons, benzene, toluene, ethylbenzene, total xylenes and total lead.

This report summarizes the results of the second phase of field activities, presents conclusions based on the findings and forwards recommendations for remediation.

SECTION 2

FIELD ACTIVITIES

Field activities consisted of monitoring well installation and groundwater sampling. Four monitoring wells were installed during the week of 18 April 1988 (Figure 2-1). The wells were sampled on 11 May 1988, approximately two weeks after completion of the wells. The field procedures used for well installations and sample collection are summarized below.

2.1 MONITORING WELL INSTALLATION

Eichelberger, Inc. of Mechanicsburg, Pennsylvania was subcontracted to perform drilling services. Monitoring wells were installed using the air hammer drilling method. A 10-inch hole was advanced through the overburden and approximately 10 feet into bedrock. A six-inch low carbon steel casing was installed and sealed into place, through which drilling continued until a fracture was transected which produced a blown yield of at least two gallons per minute. During the installation of monitoring well UST-2, 10-inch steel casing was driven through the overburden to keep the hole from caving during installation of the six-inch casing.

Upon completion of each well, the steel casing was cut flush with the ground surface. The casing was covered with a protective curb box which was cemented into place and secured. The wells were developed using the compressed air method, for a minimum of one hour and until relatively nonturbid water was produced.

All holes were logged from the cuttings blown during drilling. Upon installation, monitoring wells were surveyed by a New Jersey licensed surveyor. Form A and Form B certifications were completed and submitted to the New Jersey Department of Environmental Protection (NJDEP). Boring logs, well construction summaries, and copies of Form A and B certifications are included in Appendix A of this report.

2.2 GROUNDWATER SAMPLING PROCEDURES

Groundwater samples were collected from the four newly installed monitoring wells approximately two weeks after development. The previously installed overburden well did not contain a sufficient quantity of water to provide a usable sample. One field blank and one duplicate sample were also collected for quality assurance/quality control purposes. The following collection procedures were used:

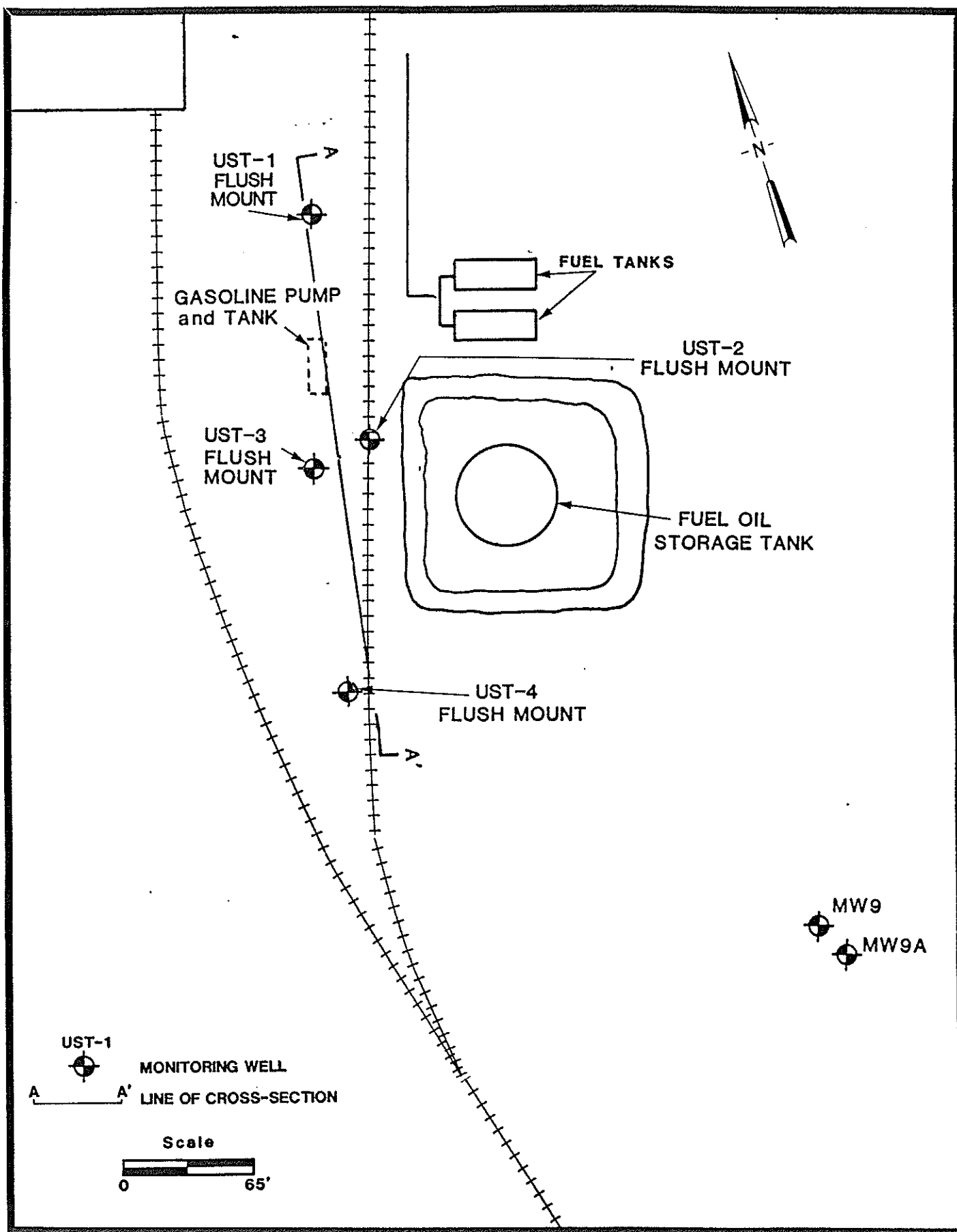


FIGURE 2-1
MONITORING WELL LOCATION MAP

- o Depth to water was measured to a precision of 0.01 feet using an electrical sounding device;
- o The bottom of the well was sounded and the volume of standing water was calculated;
- o A clear Teflon bailer was used to collect a sample from the top of the water column to visually check for floating free product;
- o A submersible pump was used to purge three casing volumes of water from the well;
- o A clean, top-filling, Teflon bailer was used to collect the water samples and transfer them directly into laboratory prepared sample containers. A bailer was used to collect the samples rather than a peristaltic pump as the depth of the well precluded the use of a peristaltic pump.
- o All sampling and purging equipment was decontaminated between wells using an Alconox wash followed by a clean water rinse, a hexane rinse and a deionized water rinse.

The samples were transported, on ice, directly to the WESTON Lionville Analytical Laboratory for analysis. A chain-of-custody document was maintained for the samples.

SECTION 3

GEOLOGY/HYDROGEOLOGY

Based on boring logs from the initial underground storage tank investigation and the four wells installed during this phase of work, the site stratigraphy, to a depth of 60 feet is divided into three units:

- o Overburden - Primarily reddish silt and clay with some fill and topsoil. Averages 12 to 15 feet in thickness.
- o Siltstone - Primarily silt and fine sand; red; massive. Averages approximately 28 feet in thickness.
- o Shale - Dark red, sandy and locally fissile. Unit not fully penetrated during this investigation.

The siltstone and shale units are part of the upper member of the Stockton Formation. A geologic cross-section, based on monitoring well boring logs, is presented in Figure 3-1. Location of the line of cross-section is given on Figure 2-1.

Although moist conditions were noted in the overburden, the water table was encountered in the siltstone. Borings for wells UST-1 and UST-3 did not encounter water bearing fractures until depths of approximately 55 and 51 feet, respectively. Borings for wells UST-2 and UST-4 encountered good water producing fractures at 31 and 32 feet, respectively.

Groundwater flow conditions appear consistent with previous interpretations with the flow direction being in a southerly direction. Water level data from another nearby bedrock monitoring well, MW-9A, suggests that a southwesterly flow direction may be present at this corner of the plant, however, the distance between data points and the shallow gradient prohibits defining flow direction with any degree of certainty. It should be noted that a downward gradient is present in the bedrock (Figure 3-1). Using the difference between water levels from wells UST-2 and UST-3 (separated by approximately 20 feet) and a vertical distance of 17 feet separating the water bearing fracture zones, a downward vertical gradient of approximately 0.22 ft/ft is calculated.

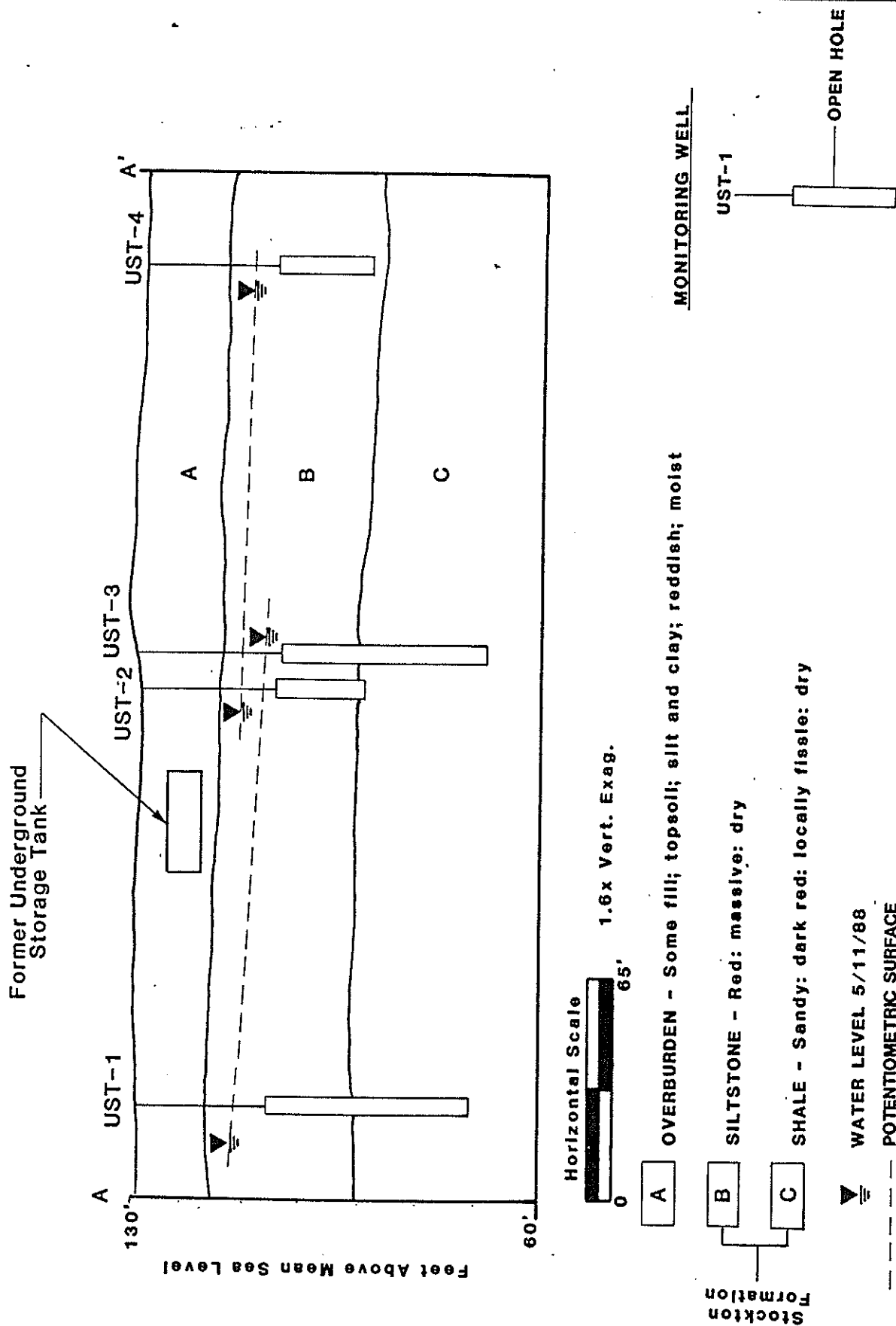


FIGURE 3-1
GEOLOGIC CROSS-SECTIONS

SECTION 4

ANALYTICAL RESULTS

4.1 FIELD SCREENING

During drilling an HNu photoionization detector was used to screen drill cuttings and monitor for volatile organic vapors. Results of the field screening are summarized in Table 4-1.

The upgradient well (UST-1) and the furthest downgradient well (UST-4) did not show the presence of volatile organic vapors. Downgradient wells UST-2 and UST-3, located within 25 and 32 feet, respectively, of the former storage tank, showed HNu readings ranging up to 50 ppm (units relative to benzene). The maximum readings were from depths corresponding with the bedrock and overburden interface. Lower readings persisted to a depth of approximately 23 feet after which volatile organic vapor readings were again nondetectable.

Based on field screening observations and information available at the time on groundwater flow direction, it was decided that a fifth well was not necessary to install at this point of the investigation.

4.2 GROUNDWATER ANALYTICAL RESULTS

Prior to purging the monitoring wells for sampling, a clear Teflon bailer was used to obtain a water sample from the top of the water column to visually check for the presence of a free product layer. No free product was observed in any of the wells installed during this investigation. The lack of free product in these wells is reflective of the depth at which water bearing fractures were encountered at each location.

Groundwater from the four newly installed monitoring wells was sampled and analyzed for total petroleum hydrocarbons, benzene, toluene, ethylbenzene, xylene and total lead. Results of the analyses are presented in Table 4-2.

Petroleum hydrocarbons were detected in all samples. The highest concentrations were associated with monitoring wells UST-2 and UST-3, immediately downgradient of the former storage tank. Smaller quantities of petroleum hydrocarbons were also noted in upgradient well UST-1 and the furthest downgradient well UST-4. The origin of trace quantities of hydrocarbons in the field blank sample may be associated with the re-use of decontamination rinsewater.

TABLE 4-1

SUMMARY OF FIELD SCREENING DATA

UNDERGROUND STORAGE TANK INVESTIGATION
GMC FISHER GUIDE TRENTON PLANT

<u>Well No.</u>	<u>Maximum HNu Reading*</u>	<u>Depth of Maximum Reading (ft.)</u>	<u>Comments</u>
UST-1	ND	---	No volatile organic vapors detected; 4/18/88.
UST-2	35	15	Lower HNu readings noted from 5 to 23 feet; 4/20/88.
UST-3	50	17	Lower HNu readings noted from 11 to 22 feet; 4/21/88.
UST-4	ND	---	No volatile organic vapors detected; 4/20/88.

*Approximate concentration of total organic vapors in parts per million (ppm) relative to benzene using a 10.2 eV probe with 9.8 span setting.

ND - Not detected.

TABLE 4-2
SUMMARY OF GROUNDWATER ANALYSES
UNDERGROUND STORAGE TANK INVESTIGATION
GMC FISHER GUIDE TRENTON PLANT

Component	UST-1	UST-2	UST-2Dup	UST-3	UST-4	Blank	Maximum Contaminant Levels (MCLs)
Petroleum Hydrocarbon (Total) (mg/L)	6.4	56	57	43	11	1.1	NE
Benzene (ug/L)	41	1600	1800	1600	63	ND	5
Toluene (ug/L)	2.3	1400	1700	360	2.6	ND	NE
Xylene(s) (Total) (ug/L)	ND	2200	2500	740	ND	ND	NE
Ethylbenzene (ug/L)	ND	ND	ND	ND	0.66J	ND	NE
Lead (Total) (ug/L)	ND	ND	ND	ND	ND	ND	50

DUP - Duplicate Sample
ND - Not detected.
NE - Not established.
J - Compound detected below method detection limit.
The concentration given is an estimated value.



Benzene, toluene, ethylbenzene and xylene (BTEX; primary components of gasoline) were detected in the highest concentrations in wells UST-2 and UST-3. Smaller quantities of benzene and toluene were also detected in upgradient well UST-1 and the furthest downgradient well UST-4. Benzene concentrations were noted to exceed established Maximum Contaminant Levels (MCLs) in all four wells. No BTEX compounds were detected in the field blank sample. The areal distribution of total BTEX concentrations is given in Figure 4-1. It should be noted that although some BTEX compounds have been noted in wells UST-1 and UST-4, total VOC concentration at these locations may still be within the NJPDES Permit (NJ0053295) groundwater discharge limit of 1 ppm.

No lead was detected in any of the groundwater or QA/QC samples.

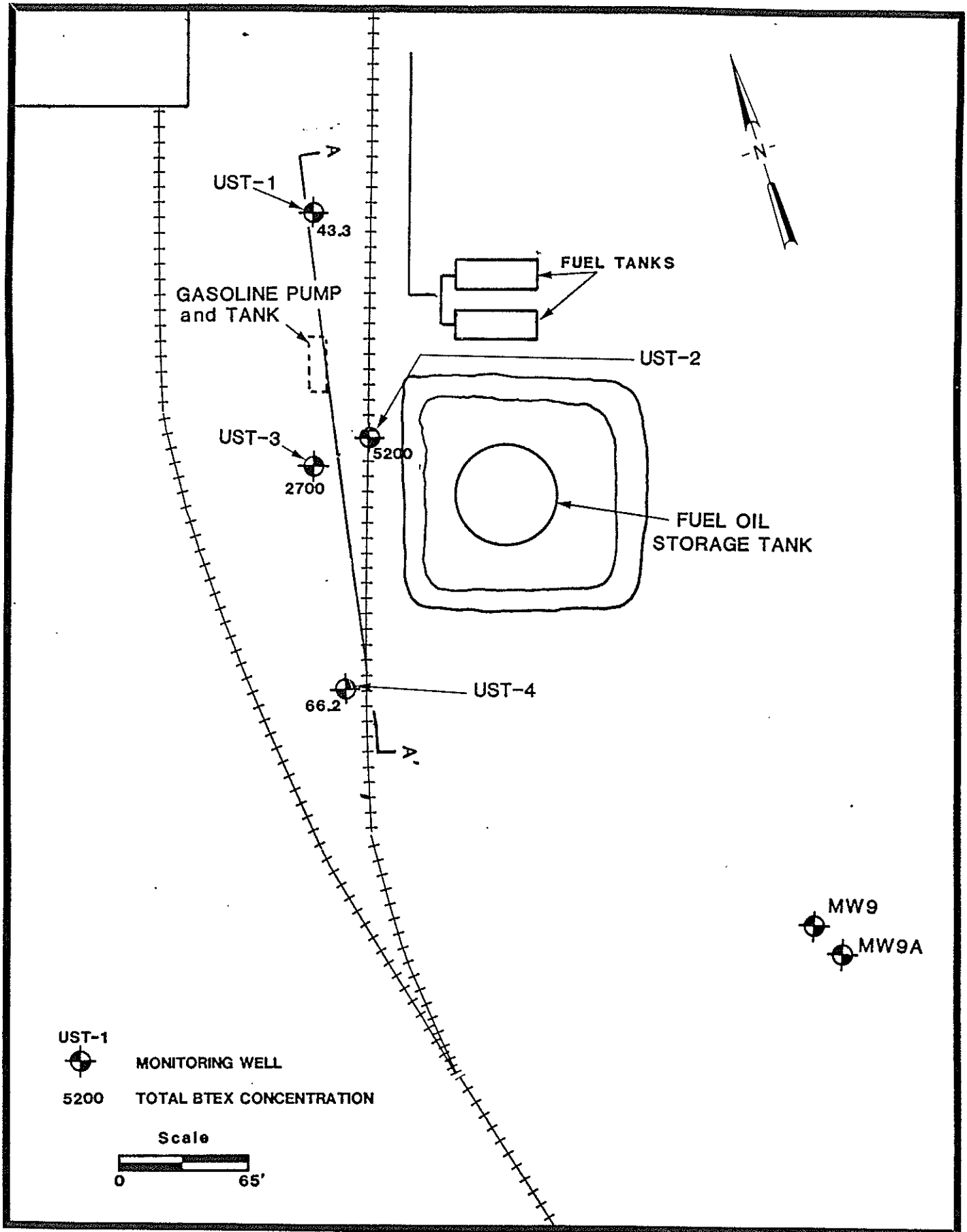


FIGURE 4-1
AREAL DISTRIBUTION OF TOTAL BTEX CONCENTRATIONS

SECTION 5

SUMMARY AND CONCLUSIONS

The second phase of the leaking underground storage tank investigation at the GMC-Fisher Guide Trenton Plant included the installation and sampling of four bedrock groundwater monitoring wells. Boring log data and water level measurements indicate that groundwater flow in the vicinity of the underground storage tank is in a southerly direction. A slight downward gradient was also noted within the bedrock aquifer.

Results of groundwater analyses can be summarized as follows:

- o No free product was noted in any of the wells installed during this investigation;
- o Total petroleum hydrocarbons from wells immediately downgradient of the former tank area ranged from 43 to 56 mg/l. Smaller quantities of hydrocarbon were noted in upgradient well UST-1 and the furthest downgradient well UST-4 (6.4 and 11 mg/l, respectively).
- o The highest benzene, toluene, ethylbenzene and xylene (BTEX) concentrations were noted in wells UST-2 and UST-3, immediately downgradient of the former storage tank area. Elevated levels of benzene were also detected in wells UST-1 and UST-4.
- o No lead was detected in any of the groundwater samples.

Based on the results of this investigation, the following conclusions are drawn:

- o The primary area of impact is within 75 feet of the former underground storage tank area.
- o Much of the residual product is absorbed by the unsaturated silt materials at the bottom of the overburden and the top of the bedrock.

- o Dissolved phase BTEX concentrations dissipate quickly within 150 feet of the former tank area.

It is recognized that some total petroleum hydrocarbon and toluene and an elevated concentration of benzene were also detected in upgradient well UST-1. This suggest that volatile organic compounds either migrated upgradient through the vapor phase in the unsaturated zone and were redissolved into the groundwater phase upgradient of the source area (Hinchee and Reisinger, 1987), or there is a separate upgradient source of these compounds.



SECTION 6

RECOMMENDATIONS

Based on the results of this investigation, the following recommendations are forwarded:

- o Resample wells UST-1 and UST-4 for confirmatory BTEX concentrations and total volatile organic compound analysis.
- o Install a groundwater recovery and air stripping system to prevent further migration of the dissolved BTEX plume and remove and treat contaminated groundwater.

The resampling of monitoring wells UST-1 and UST-4 for total volatile organic compounds will be used to determine if NJPDES Permit (NJ0053295) groundwater discharge limits of 1 ppm volatile organic compounds have been exceeded at these locations. This information will be used to help determine the areal extent of the capture zone necessary to accomplish the goals of the remediation.

If it is determined that the capture zone does not need to extend any further downgradient than existing well UST-4, then it is recommended that well UST-2 be used as a recovery well. Although the yield of this well (6 gpm) is lower than from well UST-4 (15 gpm), UST-2 is the preferable location due to the magnitude of the observed BTEX concentrations.

If it is determined that the capture zone must extend further downgradient than well UST-4, then it is recommended that well UST-4 be used as the recovery well. The higher yield of this well, along with its downgradient location, will facilitate the formation of a larger groundwater capture zone.

The proposed groundwater recovery and treatment system should include:

- o A four-inch submersible pump constructed of inert materials, with respect to volatile organic compounds, placed into either well UST-2 or UST-4.

- o An air stripping column which is capable of handling an inflow of 25 gpm and a minimum stripping efficiency of 0.95 with volatile organic compound concentrations ranging up to 5,200 parts per billion.
- o Appropriate plumbing to connect the pumping unit to the air stripper and to allow discharge of treated groundwater into the existing plant wastewater treatment system.
- o A step-drawdown test and a 48-hour pump test to coincide with initiation of recovery activities to help evaluate well hydraulics and recovery system efficiency. The data will be utilized to optimize the pumping rate, and define the extent of the capture zone.
- o The periodic cessation of pumping to allow the system to re-equilibriate and potentially backwash compounds retained by the silt particles within the dewatered portion of the capture zone.
- o A regular, documented recovery system inspection and maintenance program.
- o A quarterly groundwater sampling program of the wells surrounding the former storage tank area.
- o Operation of the air stripper until VOC concentrations are low enough to allow direct discharge from the pumping well to the wastewater treatment system.
- o Operation of the groundwater recovery system until volatile organic concentrations on three successive quarters of sampling are below levels agreed upon by GMC-Fisher Guide and the New Jersey Department of Environmental Protection.

APPENDIX A

BORING LOGS, WELL CONSTRUCTION SUMMARIES,
FORM A AND B CERTIFICATIONS

GROUND WATER
MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Fisher Body Division, Genral Motors Corp.
Name of Facility: Same as permittee
Location: Trenton, Ewing Twp., Mercer County
NJPDES Permit No: NJ0053295

ENGINEER'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water Allocation Section (609-984-6831):

This number must be permanently affixed to the well casing.

2 7 - 0 9 - 6 2 8 - 9

Owner's Well Number (As shown on the application or plans):

UST-1

Well Completion Date:

4/18/88

Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):

0.00' (Flush Mount)

Total Depth of Well (one-tenth of a foot):

60.0

Depth to Top of Screen From Top of Casing (one-tenth of a foot):

35.0' (open hole)

Screen Length (feet):

25'

Screen or Slot Size:

Not Applicable

Screen Material:

Not Applicable

Casing Material: (PVC, Steel or Other-Specify):

Low Carbon Steel

Casing Diameter(Inches):

6-inch

Static Water Level From Top of Casing at The

Time of Certification(one-hundredth of a foot):

17.41'

Yield (Gallons per Minute):

2.5gpm

Length of time Well Pumped or Bailed:

1 Hours 0 Minutes

Lithologic Log:

ATTACH ON BACK

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitted false information including the possibility of fine and imprisonment.

Professional Engineer's Signature

Professional Engineer's Name
(Please type or print)

SEAL

Professional Engineer's License #

DRILLING LOG

WELL NUMBER: UST-1 OWNER: GMC-Fischer
 LOCATION: SE Corner ADDRESS: _____
of plant - upgradient
of UST (removed) TOTAL DEPTH 60.0 ft.
 SURFACE ELEVATION: _____ WATER LEVEL: 17.8' BGS (4-22)
 DRILLING COMPANY: Eichelberger DRILLING METHOD: Air Hammer DATE DRILLED: 4-18-88
 DRILLER: Dwayne Kocher HELPER: Ron Lehman
 LOG BY: Steve Clough

SKETCH MAP

NOTES:

Logged form cutting

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
14'					Top Soil & Silt, reddish brown, clayey, rock frags (siltstone), moist. Some water above top of bedrock.
20					Siltstone, brick red at top, darkening with depth, dark red below 25 ft, dry.
39'					Shale, dark red, sandy (very fine grain), dry to 55 ft., moist below 55 ft.
40					Total Depth - 60 ft.

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: GMC Fisher Guide Division
 Name of Facility: Fisher Body Ternstedt Division (General Motors)
 Location: Ewing Township, New Jersey
 NJPDES Number: NJ 0053296

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's
 Water Allocation Section, 609-984-6831):
 This number must be permanently affixed to
 the well casing.

2 7 - 0 9 6 2 8 - 9

Longitude (one-tenth of a second):
 Latitude (one-tenth of a second):
 Elevation of Top of Casing (cap off)
 (one-hundredth of a foot):
 Owners Well Number (As shown on application
 or plans):

West 74° 48' 32.106"

North 40° 15' 46.792"

131.54

UST - 1

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Vincent Schulte
 PROFESSIONAL LAND SURVEYOR'S SIGNATURE

VINCENT SCHULTE
 PROFESSIONAL LAND SURVEYOR'S NAME
 (Please print or type)

SEAL

NJ# GSO -7071
 PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to be a major modification of the permit.

GROUND WATER
MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Fisher Body Division, Genral Motors Corp.
Name of Facility: Same as permittee
Location: Trenton, Ewing Twp., Mercer County
NJPDES Permit No: NJ0053295

ENGINEER'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section (609-984-6831):
This number must be permanently affixed to the
well casing.

2 7 0 9 6 2 9 7

Owner's Well Number (As shown on the application
or plans):

UST-2

Well Completion Date:

4/22/88

Distance from Top of Casing (cap off) to ground
surface (one-hundredth of a foot);

0.00' (Flush Mount)

Total Depth of Well (one-tenth of a foot):

40.0'

Depth to Top of Screen From Top of Casing
(one-tenth of a foot):

25.0' (open hole)

Screen Length (feet):

15.0 (open hole)

Screen or Slot Size:

Not Applicable

Screen Material:

Not Applicable

Casing Material: (PVC, Steel or Other-Specify):

Low Carbon Steel

Casing Diameter(Inches):

6-inch

Static Water Level From Top of Casing at The

Time of Certification(one-hundredth of a foot):

17.40

Yield (Gallons per Minute):

approx. 3gpm

Length of time Well Pumped or Bailed:

1 Hours 15 Minutes

Lithologic Log:

ATTACH ON BACK

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitted false information including the possibility of fine and imprisonment.

Professional Engineer's Signature

Professional Engineer's Name
(Please type or print)

SEAL

Professional Engineer's License #

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: GMC Fisher Guide Division
 Name of Facility: Fisher Body Ternstedt Division (General Motors)
 Location: Ewing Township, New Jersey
 NJPDES Number: NJ 0053296

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's
 Water Allocation Section, 609-984-6831):
 This number must be permanently affixed to
 the well casing.

2 7 - 0 9 6 2 9 - 7

Longitude (one-tenth of a second):
 Latitude (one-tenth of a second):
 Elevation of Top of Casing (cap off)
 (one-hundredth of a foot):
 Owners Well Number (As shown on application
 or plans):

West 74° 48' 32.304"

North 40° 15' 45.677"

131.58

UST - 2

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Vincent Schulte
 PROFESSIONAL LAND SURVEYOR'S SIGNATURE

VINCENT SCHULTE

PROFESSIONAL LAND SURVEYOR'S NAME
 (Please print or type)

SEAL

NJ# GS0 -7071

PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This

GROUND WATER
MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Fisher Body Division, Genral Motors Corp.
Name of Facility: Same as permittee
Location: Trenton, Ewing Twp., Mercer County
NJPDES Permit No: NJ0053295

ENGINEER'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water Allocation Section (609-984-6831):

This number must be permanently affixed to the well casing.

2 7 0 9 6 3 0 1

Owner's Well Number (As shown on the application or plans):

UST-3

Well Completion Date:

4/22/88

Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):

0.00' (Flush Mount)

Total Depth of Well (one-tenth of a foot):

61.0'

Depth to Top of Screen From Top of Casing (one-tenth of a foot):

25.0' (open hole)

Screen Length (feet):

36.0' (open hole)

Screen or Slot Size:

Not Applicable

Screen Material:

Not Applicable

Casing Material: (PVC, Steel or Other-Specify):

Low Carbon Steel

Casing Diameter(Inches):

6-inch

Static Water Level From Top of Casing at The

Time of Certification (one-hundredth of a foot):

21.18

Yield (Gallons per Minute):

approx. 5gpm

Length of time Well Pumped or Bailed:

1 Hours 0 Minutes

Lithologic Log:

ATTACH ON BACK

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitted false information including the possibility of fine and imprisonment.

Professional Engineer's Signature

Professional Engineer's Name
(Please type or print)

SEAL

Professional Engineer's License #

DRILLING LOG

WELL NUMBER: UST-3 OWNER: GMC-Fischer
 LOCATION: Downgradient ADDRESS: _____
SW of UST.
 TOTAL DEPTH 61.0 ft.
 SURFACE ELEVATION: _____ WATER LEVEL: 21.5' BGS (4-22)
 DRILLING COMPANY: Eichelberger DRILLING METHOD: Air Hammer DATE 4/21/88
 DRILLER: D. Kocher HELPER: R. Lehman
 LOG BY: Steve Clough

SKETCH MAP

UST1 X
 Former U.S.T.
 UST2 X
 UST3 X
 UST4 X

NOTES:
 Logged from cuttings

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS*	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
15'					Cement & silt, clayey, brown, cobbles, moist, color changes to brownish red at 7 ft. Cement slab 6-inches thick at top.
20'					Siltstone, red, dry, massive, fracture at 22 ft. (dry),
30'					Shale, sandy (v. fine grain), brick red, dry, fissile at top, fracture at @ 51 ft.
61'					Total Depth = 61.0 ft.

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: GMC Fisher Guide Division

Name of Facility: Fisher Body Ternstedt Division (General Motors)

Location: Ewing Township, New Jersey

NJPDES Number: NJ 0053295

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's
Water Allocation Section, 609-984-6831):
This number must be permanently affixed to
the well casing.

2 7 0 9 6 3 0 1

Longitude (one-tenth of a second):

West 74° 48' 32.648"

Latitude (one-tenth of a second):

North 40° 15' 45.661"

Elevation of Top of Casing (cap off)
(one-hundredth of a foot):

132.25

Owners Well Number (As shown on application
or plans):

UST - 3

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Vincent Schulte
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

VINCENT SCHULTE

PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

NJ# GSO -7071

PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to be a major modification of the permit.

GROUND WATER
MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Fisher Body Division, Genral Motors Corp.
Name of Facility: Same as permittee
Location: Trenton, Ewing Twp., Mercer County
NJDES Permit No: NJ0053295

ENGINEER'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water Allocation Section (609-984-6831):
This number must be permanently affixed to the well casing.

2 7 0 9 6 3 1 9

Owner's Well Number (As shown on the application or plans):

UST-4

Well Completion Date:

4/21/88

Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):

0.00' (Flush Mount)

Total Depth of Well (one-tenth of a foot):

40.0'

Depth to Top of Screen From Top of Casing (one-tenth of a foot):

28.0' (open hole)

Screen Length (feet):

12.0' (open hole)

Screen or Slot Size:

Not Applicable

Screen Material:

Not Applicable

Casing Material: (PVC, Steel or Other-Specify):

Low Carbon Steel

Casing Diameter (Inches):

6-inch

Static Water Level From Top of Casing at The

Time of Certification (one-hundredth of a foot):

19.59'

Yield (Gallons per Minute):

15gpm

Length of time Well Pumped or Bailed:

1 Hours 0 Minutes

Lithologic Log:

ATTACH ON BACK

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitted false information including the possibility of fine and imprisonment.

Professional Engineer's Signature

Professional Engineer's Name
(Please type or print)

SEAL

Professional Engineer's License #

DRILLING LOG

WELL NUMBER: UST-4 OWNER: GMC-Fischer
 LOCATION: Downgradient south of UST ADDRESS: _____
 _____ TOTAL DEPTH 40.0 ft.
 SURFACE ELEVATION: _____ WATER LEVEL: 19.8' BGS (4-22)
 DRILLING COMPANY: Eichelberger DRILLING METHOD: Air Hammer DATE 4/20/88
 DRILLER: D. Kocher DRILLED: _____
 _____ HELPER: R. Lehman
 LOG BY: Steve Clough

SKETCH MAP

NOTES:
 Logged from cuttings

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
15'					Cement & silt, 6" cement slab at top, silt is very clayey, brown, moist, some olive-gray mottling, color changes to reddish brown at 11 ft.
20					Siltstone, red, dry, soft until 18 ft. (top of competent rock), water at 32 ft., fracture at 35 ft.
40					Total Depth = 40 ft.

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: GMC Fisher Guide Division

Name of Facility: Fisher Body Ternstedt Division (General Motors)

Location: Ewing Township, New Jersey

NJPDES Number: NJ 0053295

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's
Water Allocation Section, 609-984-6831):
This number must be permanently affixed to
the well casing.

2 7 - 0 9 6 3 1 - 9

Longitude (one-tenth of a second):

West 74° 48' 32.812"

Latitude (one-tenth of a second):

North 40° 15' 44.578"

Elevation of Top of Casing (cap off)
(one-hundredth of a foot):

131.80

Owners Well Number (As shown on application
or plans):

UST - 4

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Vincent Schulte
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

VINCENT SCHULTE
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

NJ# GSO -7071
PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to be a modification of the permit.

GROUND WATER
MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Fisher Body Division, Genral Motors Corp.
Name of Facility: Same as permittee
Location: Trenton, Ewing Twp., Mercer County
NJPDES Permit No: NJ0053295

ENGINEER'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section (609-984-6831):

NOT INSTALLED

This number must be permanently affixed to the
well casing.

2 7 0 9 6 3 2 7

Owner's Well Number (As shown on the application
or plans):

Well Completion Date:

Distance from Top of Casing (cap off) to ground
surface (one-hundredth of a foot):

Total Depth of Well (one-tenth of a foot):

Depth to Top of Screen From Top of Casing
(one-tenth of a foot):

Screen Length (feet):

Screen or Slot Size:

Screen Material:

Casing Material: (PVC, Steel or Other-Specify):

Casing Diameter(Inches):

Static Water Level From Top of Casing at The

Time of Certification(one-hundredth of a foot):

Yield (Gallons per Minute):

Length of time Well Pumped or Bailed:

Hours Minutes

Lithologic Log:

ATTACH ON BACK

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitted false information including the possibility of fine and imprisonment.

Professional Engineer's Signature

Professional Engineer's Name
(Please type or print)

SEAL

Professional Engineer's License #

APPENDIX B

ANALYTICAL DATA

Inter-Office Memorandum



TO: Bob Brod
cc: Rich Gnat

FROM: Sharon Nordstrom *SN*
PROJECT: GMC Fisher Body
SUBJECT:
ACTION:

DATE: 31 May 1988

W.O. NO.:

Attached are the Petroleum Hydrocarbon and Lead data reports for the Fisher Body samples submitted for analysis on 5/11/88. The BTX results are expected to be completed this week and will be submitted to you under separate cover.

If you should have any questions, please give me a call.

RECEIVED

JUN 02 1988

ROY F. WESTON, INC.
CHICAGO OFFICE



GMC FISHER BODY

WESTON Analytics

RFW Batch: 8805-350

The following qualifiers/codes are used on the data summary:

- U- Indicates that the compound was analyzed for but not detected. The detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10u).
- MB- Method Blank- consists of deionized, distilled water processed through each sample preparation procedure performed. The analysis of method blanks provides a means of assessing the existence and magnitude of contamination introduced via the analytical scheme. The reported sample results are not corrected for the blank results.

The method used for the analysis of petroleum hydrocarbons is EPA method 418.1 (USEPA 600/4-79-020). Solid Samples are extracted using method 3540 (USEPA SW 846) then analyzed by EPA method 418.1.

NA- Not Applicable

NR- Not Required

NC- Not Calculable, result below detection limit.

Approved by


James Michael Taylor

Department Manager

WESTON Analytical Laboratories

5-20-88

Date

WESTON ANALYTICS

ORGANICS DATA SUMMARY REPORT 05/19/88

CLIENT: GMC FISHER BODY
WORK ORDER: 1138-49-01-0000

WESTON BATCH #: 8805-350

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
=====	=====	=====	=====	=====	=====
-001	FIELD BLANK DECON	PETROLEUM HYDROCARBONS	1.3	MG/L	0.20
-002	MW-1	PETROLEUM HYDROCARBONS	6.4	MG/L	0.20
-003	MW-2	PETROLEUM HYDROCARBONS	56	MG/L	0.20
-004	MW-3	PETROLEUM HYDROCARBONS	43	MG/L	0.20
-005	MW-4	PETROLEUM HYDROCARBONS	11	MG/L	0.20
-007	MW-2 DUP	PETROLEUM HYDROCARBONS	57	MG/L	0.20

Trenton Plant



March 23, 1990

Mr. Douglas A. Greenfield
New Jersey Department of Environmental Protection
Central Bureau of Field Operations
Twin Rivers Professional Building
East Windsor, NJ 08520

Re: Notice of Violation(s)
March 2, 1990
NJD 002 353 951

Dear Mr. Greenfield:

This letter serves to confirm that a spill of an unknown petroleum substance was reported to the State Department of Environmental Protection on March 2, 1990 by Inland Fisher Guide (IFG) personnel following your hazardous waste inspection. The National Response Center was also contacted.

During your inspection on March 2, 1990, a discoloration approximately 1'X 15' in dimension was observed on the soil adjacent to the headworks of IFG's wastewater pretreatment plant. This discoloration appeared dried. Based on further inspection on March 6th, it was observed that the containment wall of the sanitation deck was broken and in need of repair.

The sanitation deck is used to steam clean oily equipment, transfer non hazardous buffing dirt to a dedicated roll off and where production wastes can be discharged for further treatment. Inland Fisher Guide believes storm runoff scoured residue from the deck area and proceeded to run past the containment wall.

Inland Fisher Guide sanitation personnel removed a small layer of top soil and stone and replaced it with clean fill. The adjacent concrete pad where oily wastes are discharged was also scarified. The contaminated soil, stone and concrete was placed in a roll off and will be manifested as an X725, non RCRA hazardous, oil spill cleanup residue. The sanitation deck containment wall was also repaired during the cleanup effort.

Corrective measures were also conducted during the week of March 6 to correct deficiencies noted during your

Mr. Douglas A. Greenfield
March 23, 1990
Page 2

hazardous waste inspection. The following corrective measures were taken to attain compliance:

1. N.J.A.C.7:26-9.4 (d)2 - Manage waste in containers leaking, or not in good condition.

Hazardous waste from the subject 55 gallon drum was transferred into a container that is in good condition and in compliance with the U.S. Department of Transportation regulations.

2. N.J.A.C. 7:26-94(d)4v - Containers not arranged so their identification labels are visible.

Drums placed on pallets have been rearranged so their identification label is visible .

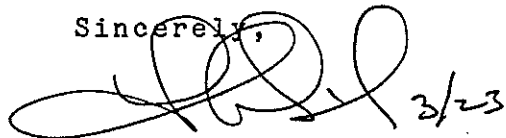
3. N.J.A.C. 7:26-9.6(e) - No Aisle space.

Pallets have been rearranged to obtain aisle space to allow unobstructed movement of fire protection equipment, spill control equipment, etc. to any areas of IFG's hazardous waste pad in the event of an emergency.

Should any additional information or clarification become necessary, please feel free to contact me at (609) 771-6275, or George Hollerbach at (609) 771-6276 .

Inland Fisher Guide is fully committed to complying with the Solid Waste Management Act and the Spill Compensation and Control Act.

Sincerely,

A handwritten signature in black ink, appearing to read 'T.A. Senich', followed by the date '3/23'.

T.A. Senich , Superintendent
Plant and Process Engineering
Inland Fisher Guide

WESTON ANALYTICS

ORGANICS METHOD BLANK DATA SUMMARY PAGE 05/19/88

CLIENT: GMC FISHER BODY
WORK ORDER: 1138-49-01-0000

WESTON BATCH #: 8805-350

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
=====	=====	=====	=====	=====	=====
BLANK10	88IR499C-MB1	PETROLEUM HYDROCARBONS	1.5	MG/L	0.20

WESTON ANALYTICS

ORGANICS ACCURACY REPORT 05/19/88

CLIENT: GMC FISHER BODY
WORK ORDER: 1138-49-01-0000

WESTON BATCH #: 8805-350

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV
=====	=====	=====	=====	=====	=====	=====
BLANK10	88IR499C-MB1	PETROLEUM HYDROCARBONS	41	1.5	43	91.3
		PETROLEUM HYDROCARBONS	41	1.5	43	91.3

WESTON ANALYTICS

ORGANICS DUPLICATE SPIKE REPORT 05/19/88

CLIENT: GMC FISHER BODY
WORK ORDER: 1138-49-01-0000

WESTON BATCH #: 8805-350

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
=====	=====	=====	=====	=====	=====
BLANK10	88IR499C-MB1	PETROLEUM HYDROCARBONS	91.3	91.3	0.00



GMC FISHER BODY

WESTON Analyticals

RFW Batch: 8805-350

The following qualifiers/codes are used on the data summary:

- U- Indicates that the compound was analyzed for but not detected. The detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10u).
- MB- Method Blank- consists of deionized, distilled water processed through each sample preparation procedure performed. The analysis of method blanks provides a means of assessing the existence and magnitude of contamination introduced via the analytical scheme. The reported sample results are not corrected for the blank results.
- LCS- Indicates laboratory control sample in which reagent grade water is spiked with the USEPA CLP LCS solution and carried through all the steps in the method. The LCS is designed to serve as a monitor of the efficiency of the digestion procedure. Percent recoveries are reported.

The subscripts S and R are utilized to denote matrix spikes and matrix replicates respectively. A matrix spike analysis is designed to provide information concerning the effect of the sample matrix on the recovery of a specific analyte. A matrix replicate analysis will provide information on the precision of the method utilized as well as the sample homogeneity.

The methods utilized by this laboratory, unless otherwise requested, are for all ICP analysis USEPA method 200.7; the furnace analysis of Arsenic (206.2), Selenium (270.2), Lead (239.2), Thallium (279.2) and Antimony (204.2), as well as the Flame Emission method for Sodium (273.1) and Potassium (258.1) are taken from Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).

NA- Not Applicable

NR- Not Required

NC- Not Calculable, result below detection limit.

Approved by

Debra K. White
Inorganic Section Manager
WESTON Analytical Laboratories

Date 5/15/88

WESTON ANALYTICS

INORGANICS DATA SUMMARY REPORT 05/19/88

CLIENT: GMC FISHER BODY
WORK ORDER: 1138-49-01-0000

WESTON BATCH #: 8805-350

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
=====	=====	=====	=====	=====	=====
-001	FIELD BLANK DECON	LEAD, TOTAL	5.0 u	UG/L	5.0
-002	MW-1	LEAD, TOTAL	5.0 u	UG/L	5.0
-003	MW-2	LEAD, TOTAL	5.0 u	UG/L	5.0
-004	MW-3	LEAD, TOTAL	5.0 u	UG/L	5.0
-005	MW-4	LEAD, TOTAL	5.0 u	UG/L	5.0
-007	MW-2 DUP	LEAD, TOTAL	5.0 u	UG/L	5.0

WESTON ANALYTICS

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/19/88

CLIENT: GMC FISHER BODY
WORK ORDER: 1138-49-01-0000

WESTON BATCH #: 8805-350

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
=====	=====	=====	=====	=====	=====
BLANK1	88A322-MB1	LEAD, TOTAL	5.0 u	UG/L	5.0

WESTON ANALYTICS

INORGANICS LABORATORY CONTROL STANDARDS REPORT 05/19/88

SAMPLE =====	SITE ID =====	ANALYTE =====	SPIKED SAMPLE =====	SPIKED AMOUNT =====	UNITS =====	%RECOV =====
LCS1	88A322-LC1	LEAD, LCS	31.5	30.0	UG/L	105
LCS2	88A322-LC2	LEAD, LCS	31.0	30.0	UG/L	103

WESTON ANALYTICS

INORGANICS DUPLICATE SPIKE REPORT 05/19/88

CLIENT: GMC FISHER BODY
WORK ORDER: 1138-49-01-0000

WESTON BATCH #: 8805-350

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
=====	=====	=====	=====	=====	=====
LCS2	88A322-LC2	LEAD, LCS	105	103	1.6

Inter-Office Memorandum



TO: Bob Brod

cc: Rich Gnat

FROM: Sharon Nordstrom SAN

DATE: 2 June 1988

PROJECT: GMC Fisher Body

W.O. NO.:

SUBJECT:

ACTION:

Attached are the BTX results for the samples received 11 May, 1988. This completes the analytical requirements for these samples.

Please give me a call if you should have any questions regarding the data.

RECEIVED

JUN 03 1988

ROY F. WESTON, INC.
CHICAGO OFFICE



ROY F. WESTON, INC.
Lionville Laboratory

CASE NO.: 8805-350
CONTRACT NO.: 1138-49-01
CLIENT ID: GMC - FISHER BODY

SAMPLES RECEIVED: 05-11-88

NARRATIVE

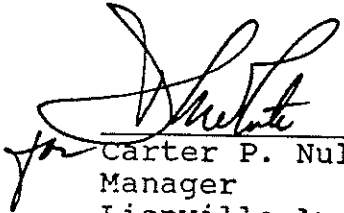
The set of samples consisted of seven water samples collected on 05-11-88.

Samples were analyzed according to criteria set forth in Method 8020 for Aromatic VOA's (BTX) target compounds on 05-17-88.

The following is a summary of the QC results accompanying these sample results and a description of any problem encountered during their analysis:

1. The surrogate recovery for aaa-Trifluorotoluene in sample MW-4 is 156%; the upper QC limit is 128%.
2. All blank spike recoveries are within laboratory control limits.
3. The following samples required dilution because they contained high levels of target compounds:

<u>Sample ID</u>	<u>Dilution Factor</u>
MW-1	10
MW-2	100
MW-3	100
MW-4	10


Carter P. Nulton, Ph.D.
Manager
Lionville Analytical Laboratories

6/2/88
DATE

WESTON ANALYTICS
GC DATA SUMMARY
VOLATILE COMPOUNDS

RFW Batch Number: 8805-350

Client: GMC - FISHER BODY

Page:

Sample Information	Cust ID:	FIELD BLK	MW-1	MW-1	MW-2	MW-3	MW-4
	RFW#:	001	002	002 DIL	003	004	005
	Matrix:	Water	Water	Water	Water	Water	Water
	D.F.:	1	1	10	100	100	1
	Units:	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Surrogate	aaa-Trifluorotoluene:	102 %	105 %	100 %	101 %	98 %	156
Recovery (%)							

Benzene.....	1 U	41	41	1600	1600	63
Toluene.....	1 U	2.3	10 U	1400	360	2.6
Total Xylenes.....	1 U	1 U	10 U	2200	740	1
Ethylbenzene.....	1 U	1 U	10 U	100 U	100 U	0.66

Sample Information	Cust ID:	MW-4	MW-2	DUP	TRIP BLANK	BLANK	B.S.
	RFW#:	005 DIL	006	007	007	BLANK	B.S.
	Matrix:	Water	Water	Water	Water	Water	Water
	D.F.:	10	100	1	1	1	1
	Units:	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Surrogate	aaa-Trifluorotoluene:	96 %	99 %	107 %	101 %	106 %	
Recovery (%)							

Benzene.....	48	1800	1 U	1 U	94 %
Toluene.....	10 U	1700	1 U	1 U	95 %
Total Xylenes.....	10 U	2500	1 U	1 U	95 %
Ethylbenzene.....	10 U	100 U	1 U	1 U	95 %

U=Analyzed, not detected. B=Present in blank. NRP=Not Reported
J=Present at less than detection limit. NR=Not requested.

WESTON ANALYTICS
GC DATA SUMMARY
VOLATILE COMPOUNDS

RPM Batch Number: 8805-350		Client: GMC - FISHER BODY		Page:	
Sample Information	Cust ID: FIELD BLK	MW-1	MW-1	MW-2	MW-4
	RPM#:	001	002 DIL	003	005
	Matrix:	Water	Water	Water	Water
	D.F.:	1	10	100	1
Units:		ug/l	ug/l	ug/l	ug/l
Surrogate	aaa-Trifluorotoluene:	102 %	105 %	101 %	156
Recovery (%)				98 %	

Benzene.....	1 U	41	41	1600	63
Toluene.....	1 U	2.3	10 U	1400	2.6
Total Xylenes.....	1 U	1 U	10 U	2200	1
Ethylbenzene.....	1 U	1 U	10 U	100 U	3.66

Sample Information	Cust ID: MW-4	MW-2 DUP	TRIP BLANK	BLANK	B.S.
	RPM#:	005 DIL	007	BLANK	B.S.
	Matrix:	Water	Water	Water	Water
	D.F.:	10	1	1	1
Units:		ug/l	ug/l	ug/l	ug/l
Surrogate	aaa-Trifluorotoluene:	96 %	99 %	101 %	106 %
Recovery (%)					

Benzene.....	48	1800	1 U	1 U	94 %
Toluene.....	10 U	1700	1 U	1 U	95 %
Total Xylenes.....	10 U	2500	1 U	1 U	95 %
Ethylbenzene.....	10 U	100 U	1 U	1 U	95 %

U=Analyzed, not detected. B=Present in blank. NRP=Not Reported
J=Present at less than detection limit. NR=Not requested.