EMCON Associates
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May 24, 1994
Proposal P94-050.12

Mr. Roger Bastien
National Airmotive Corporation
7200 Lockheed Street
Oakland, California 94621-4504

Re: Workplan for assessment of soil and groundwater quality UST areas

Dear Mr. Bastien:

EMCON Associates (EMCON) is pleased to present this workplan for assessing soil and groundwater quality at the National Airmotive Corporation (NAC) test facility site in Oakland, California. The test facility is located at the northern end of Earhart Road (Figure 1) and is used for testing aircraft engines. This workplan is based on information obtained from Roger Bastien during a meeting and site walk conducted on May 19, 1994.

BACKGROUND

The site was formerly used as a refuse disposal area and contains buried concrete, tires, bricks, and other debris. The water table is approximately 4 to 5 feet below the ground surface (BGS). There are two 8,000-gallon and one 10,000-gallon underground fuel storage tanks at the site, which were installed in the mid-1980s. In September 1992, approximately [redacted] was spilled near the two 8,000-gallon tanks during a fuel transfer operation. EMCON understands that NAC wants to conduct a preliminary soil and groundwater assessment to determine the extent of the jet-fuel release.

EMCON understands that the Port of Oakland has installed two groundwater monitoring wells on the property adjacent to the test facility. Information from these wells; such as groundwater chemistry, depth to water, well depths, lithologies encountered, and well construction, would be useful for EMCON's assessment. EMCON understands that NAC will attempt to obtain information on these two wells and forward the information to EMCON.

MW-3
MW-4
(SWAT in investigation)

SCOPE OF WORK

EMCON proposes to collect soil and groundwater samples at eight locations on the site (Figure 2). The samples will be collected with hollow-stem auger drilling equipment, without installing permanent groundwater monitoring wells. The following tasks describe the procedures that will be used to assess the condition of soil and groundwater in the vicinity of the release.

One of the borings will be located outside of the fenced area that NAC leases. EMCON understands that NAC will obtain access permission for the drilling at this location.

Task 1. Prefield Activities

EMCON will schedule a driller, obtain the necessary sampling materials, and obtain any necessary permits, including a drilling permit from the Alameda Flood Control District (AFCD). The AFCD requires that it be notified at least 5 days before the field investigation is conducted. EMCON will prepare a brief Health and Safety Plan, which will be followed during the drilling and sampling activities (Task 2). EMCON will not contract a utility locating service, as NAC has stated that it will identify boring locations free of utilities. NAC will therefore maintain liability related to the utility clearance.

Task 2. Collect Soil and Groundwater Samples

EMCON will drill eight borings at the approximate locations shown in Figure 2, using 6-inch-diameter hollow-stem augers. The soils will be logged by an EMCON geologist under the direct supervision of a California-registered geologist according to the Unified Soil Classification System. Soil samples will be scanned in the field with a photo-ionization detector (PID) to assess the relative concentration of jet fuel present in each sample. For the purposes of estimating costs, EMCON assumes that two soil samples will be collected at about 2 and 5 feet BGS from each boring. Soil samples will be selected for chemical analyses (Task 3) on the basis of the PID readings and visual observations.

Both soil samples will be collected above the first encountered groundwater. After the soil samples are collected, the boring will be advanced into the groundwater so that water samples can be collected. Grab groundwater samples will be collected from each boring with a Teflon® bailer. The bailer will be checked for floating product. If floating product greater than 1/8 inch thick is observed, the sample will not be submitted to the laboratory for analysis and the measured thickness of floating product will be recorded on the boring logs.

All sampling equipment will be steam-cleaned between each use to prevent cross-contamination. The borings will be backfilled with bentonite-cement grout. The drill cuttings will be stored in drums on site. NAC will be responsible for disposing of the drilling cuttings and steam-cleaning water. EMCON will assist NAC in determining appropriate disposal options based on the results of the soil and groundwater analyses. The cost estimate does not include charges for disposal of the drill cuttings and purge water because we cannot determine the appropriate disposal option at this time.

Task 3. Analyze Samples

Sixteen soil samples (two from each boring) and a maximum of eight groundwater samples (those not containing floating product) will be submitted to Columbia Analytical Services (CAS), a state-certified laboratory. The samples will be analyzed for high-boiling-point hydrocarbons (HBHCs), which includes jet fuel, by the methods recommended by the Department of Toxic Substances Control (DTSC) in the *Leaking Underground Fuel Tank (LUFT) Field Manual* (State Water Resources Control Board, May 1988, revised October 1989).

Task 4. Meeting

After receiving the laboratory analyses, EMCON will meet with NAC to discuss the results and interpret the data. The discussion will focus on options for further work, if any is required.

Task 5. Prepare Report

EMCON will prepare a report detailing the findings of the investigation. The report will include

- Figures showing the soil and groundwater sampling locations
- Boring logs
- Certified analytical reports
- Interpretation of data
- Conclusions
- Recommendations for further work, if necessary

If you have questions, please call.

Sincerely,

EMCON Associates

Mark Smolley
Project Manager

Douglas A. Liddie
Vice President

Attachments: Figure 1 - Site Location
Figure 2 - Proposed Sampling Locations

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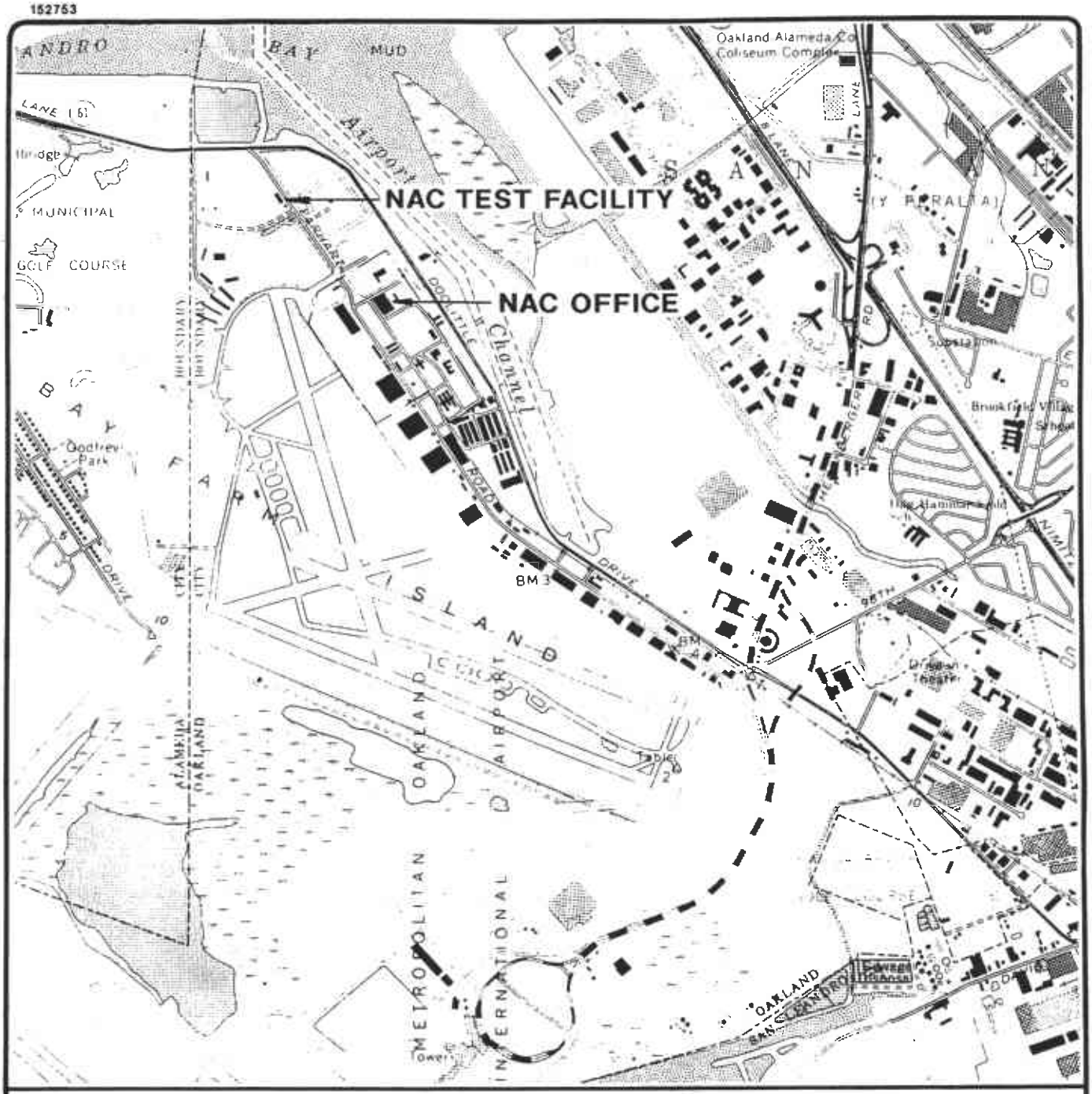

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NATIONAL AIRMOTIVE CORPORATION
7200 LOCKHEED STREET
SOIL AND GROUNDWATER CHARACTERIZATION
OAKLAND, CALIFORNIA

SITE LOCATION

FIGURE
1

PROJECT NO.
P94-050.12

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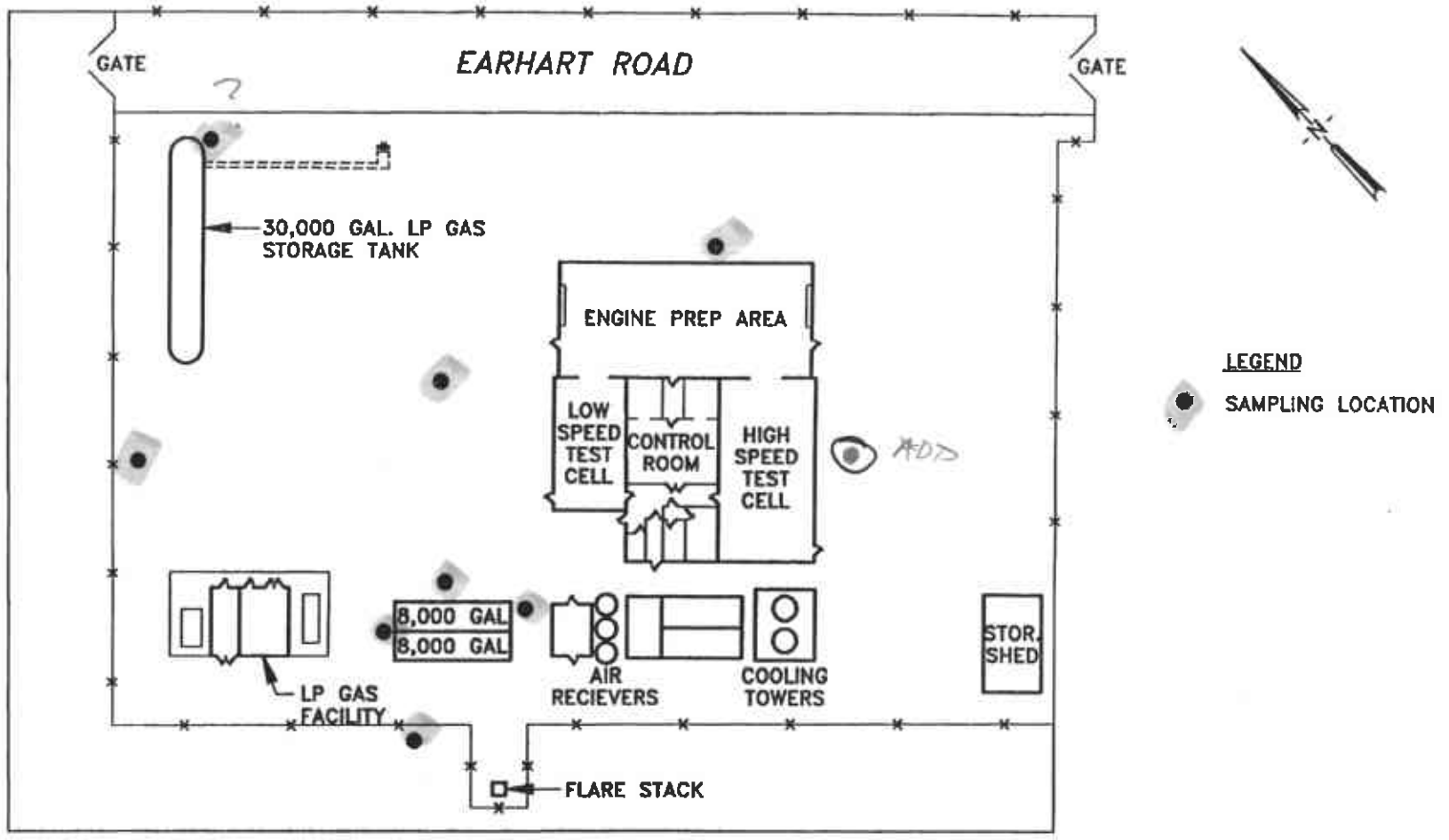

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SAMPLING LOCATIONS

FIGURE 2

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