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May 26, 1992

Mr. Barney Chan
Hazardous Materials Specialist
Division of Hazardous Materials
Department of Environmental Health
Alameda County Health Agency
80 Swan Way, Room 200
Oakland, California 94621

Tracem.

Subject: Federal Aviation Administration Terminal Radar Approach Control Facility
Soil Characterization and Remediation Proposal

Dear Mr. Chan:

Advanced Sciences, Inc. (ASI), is pleased to provide this proposal for soil characterization and soil remediation of diesel- and waste-oil-affected soil located at the Federal Aviation Administration (FAA) Terminal Radar Approach Control (TRACON) facility in Oakland, California. Waste-oil spills were observed to extend from the FAA TRACON facility into a ditch on an adjacent property, and degraded diesel was detected at concentrations of 500 and 2,100 milligrams per kilogram (mg/kg) in the ditch soil. In addition, diesel- and heavier-hydrocarbon-affected soil was detected in the former FAA TRACON diesel tank pit. This letter presents a description of ASI soil characterization techniques including soil sample analytical methods, soil excavation and treatment techniques, confirmation soil sampling methods, and backfilling techniques.

In accordance with this proposal, ASI will provide the following services:

- complete a site-specific health and safety plan for site operations,
- excavate diesel- and waste-oil-affected soil from the ditch and former tank location,
- collect soil samples to confirm removal of the affected soil from the ditch and former tank location,
- arrange for field analysis of collected soil samples using EPA Method 8015,
- transport the affected soil to a licensed treatment facility, and
- arrange for analysis of the confirmation soil samples by a certified laboratory.

SITE BACKGROUND

The sites are located at 1029 Grumman Street, Oakland, in the northeast quarter of the southwest quarter of Section 20, Township 2 South, Range 3 West of the San Leandro 7.5 Minute Quadrangle, Alameda County, California (Figure 1). The sites may be located in a portion of a former U.S. Navy fuel or oil storage or servicing area. The adjacent parcel is covered with low-lying shrubs and weeds, is located on filled land, and is at an elevation of approximately 10 feet above mean sea level (MSL). Based upon observations made during a tank removal at the FAA TRACON facility, groundwater is estimated to be at a depth of less than 5 feet below ground surface.

A 1,000-gallon-capacity underground diesel tank was removed from the FAA TRACON facility on May 2, 1991. The tank was located approximately 30 feet southwest of the adjacent parcel (Figure 2). A groundwater sample collected at the time of the tank removal had a total petroleum hydrocarbon (TPH) concentration of 36.6 milligrams per liter (mg/l). The majority of hydrocarbons were slightly less than, at, and greater than C_{23} , indicating the presence of hydrocarbons heavier than the diesel fuel previously stored in the tank. The analytical results also indicated benzene, toluene, ethylbenzene, and xylenes (BTEX) were not present above detection limits in the groundwater beneath the tank. Analytical results of a soil sample collected within the diesel tank backfill indicated TPH concentrations of 375 mg/kg. The sample was analyzed from a broken container and, therefore, the analytical result may be invalid.

In response to a request by the FAA, ASI submitted a Phase I Site Assessment Proposal for the adjacent parcel to Mr. Robin Wilkerson of the FAA on December 6, 1991. The proposal was accepted by Mr. Wilkerson, and verbal authorization to proceed was given on December 6, 1991. During the course of the site assessment, ASI personnel identified the subject parcel as consisting of filled land in part composed of demolition-type materials. This parcel may have received municipal waste to build the land surface to its present elevation.

ASI also identified TPH concentrations of approximately 500 to 2,100 mg/kg in surface soil samples collected from the ditch along the southern boundary of the parcel. Analysis of other collected surface-soil samples indicated nondetectable TPH concentrations. The possibility exists that the TPH concentrations detected may be due to spillage and/or runoff from previous site use, adjacent parcel runoff, or illegal dumping. Laboratory data indicate that these petroleum hydrocarbons have characteristics similar to degraded diesel. The vertical and lateral extent of the soils affected by petroleum hydrocarbons is unknown. Analytical results of polychlorinated biphenyl (PCB) analysis indicate that PCBs were not detected in collected soil samples. Analysis for Title 22 metals indicates that metal concentrations did not exceed the total threshold limit concentration (TTL) for any metal. Soil samples were also nonreactive, noncorrosive, and not ignitable. A 96-hour aquatic bioassay indicated that extract from the soil was not acutely toxic. These analytical results indicate that the diesel-affected soil can be classified as a nonhazardous waste by the generator, according to the California Code of Regulations, Title 22, Article 11. These analytical results are presented in Attachment 1.

PROPOSED SCOPE OF WORK

ASI proposes to excavate soil with TPH concentrations above 100 mg/kg from the former FAA TRACON diesel tank pit and from a ditch on a parcel immediately northwest of the FAA TRACON facility. Former tank backfill soil was placed in the former tank pit at a depth of 5 to 7 feet. Pea gravel was placed from 5 feet in depth to the ground surface. The soil with TPH concentrations above 100 mg/kg extending from 5 to 7 feet in depth will be removed. Excavated soil will be stockpiled on plastic prior to loading onto an end-dump truck. Soil from the pit walls and bottom will be collected using a backhoe.

Soil from the ground surface to 2 feet in depth at the adjacent parcel will be removed using a backhoe from areas with TPH concentrations above 100 mg/kg. Soil samples will then be collected from 2 feet in depth using the backhoe or a hand auger. If TPH concentrations are above 100 mg/kg, then soil from 2 to 4 feet in depth will be removed and stockpiled. Soil will be removed in 2-foot increments until soil analytical results indicate in situ TPH concentrations are less than 100 mg/kg or the top of the local groundwater table is encountered.

Field soil samples will be placed into brass liners and sealed with aluminum foil and plastic end caps. The soil samples will be analyzed for TPH concentrations using EPA Method 8015 on an immediate-turnaround basis in the field. Final confirmation soil samples will be collected by driving 2-inch diameter clean brass liners into the soil; removing the liners; sealing the liners with aluminum foil, plastic end caps, and tape; labeling; logging; placing into an insulated cooler with ice; and shipping to Calscience Environmental Laboratory of Stanton, California under strict chain-of-custody protocol. These soil samples will be analyzed for TPH concentrations using modified EPA Method 8015 using California DHS methodology.

Stockpiled soil will be loaded onto end-dump trucks, covered, and transported to Gibson Oil or Resource Renewal Technologies, both of Bakersfield, California. The soil will be treated and recycled into asphaltic cement. The former diesel tank excavation area will then be filled with aggregate base to the ground surface, regraded, and paved with asphaltic concrete to maintain existing drainage. The ditch will be backfilled with aggregate base to approximately 2 feet below grade. Clean imported soil backfill will be placed over the aggregate base and the ditch area will be regraded to ground elevation.

Reporting and Schedule

ASI can begin field work within two weeks of approval of this proposal by the California Regional Water Quality Control Board (CRWQCB) and the Alameda County Department of Health (DOH). Four to six weeks following receipt of the confirmation analytical results, ASI will submit a Soil Remediation report to the CRWQCB and Alameda County DOH.

ASI will perform or oversee the proposed work in accordance with generally accepted standards of professional engineering and geologic practice. Our recommendations, specifications, or professional opinions would conform to those same standards. No other warranty is either expressed or implied.

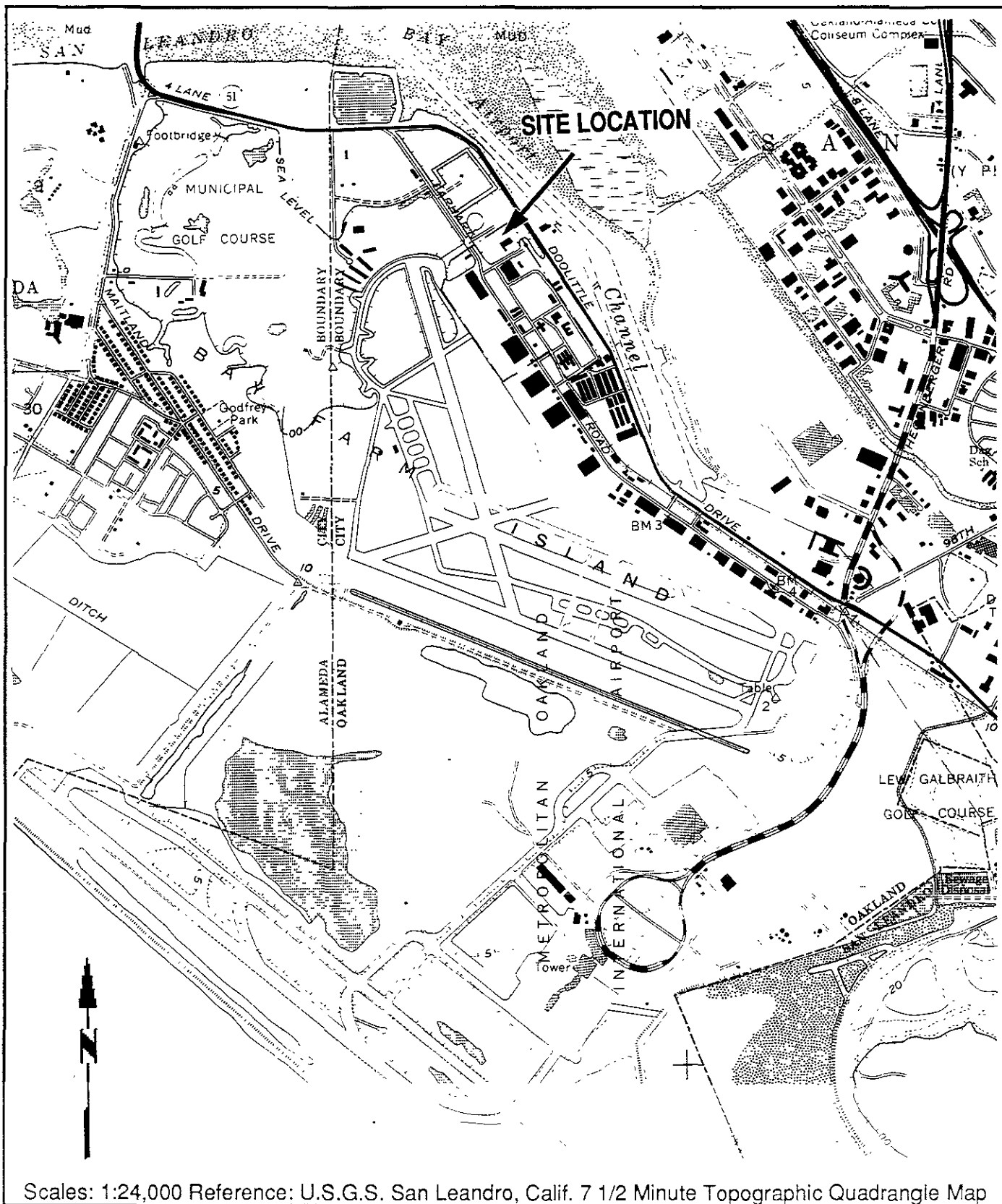
If you have any questions or comments, please call Len Sinfield or me at (619) 560-8552.

Sincerely,


Sarah J. Battelle
Project Manager

Attachments: Figure 1 - Site Location
Figure 2 - Site Plan

cc: Charley Chamness - FAA, Los Angeles
James McGrath - Port of Oakland, Environmental Department
Patricia Murphy - Port of Oakland, Environmental Department
CRWQCB

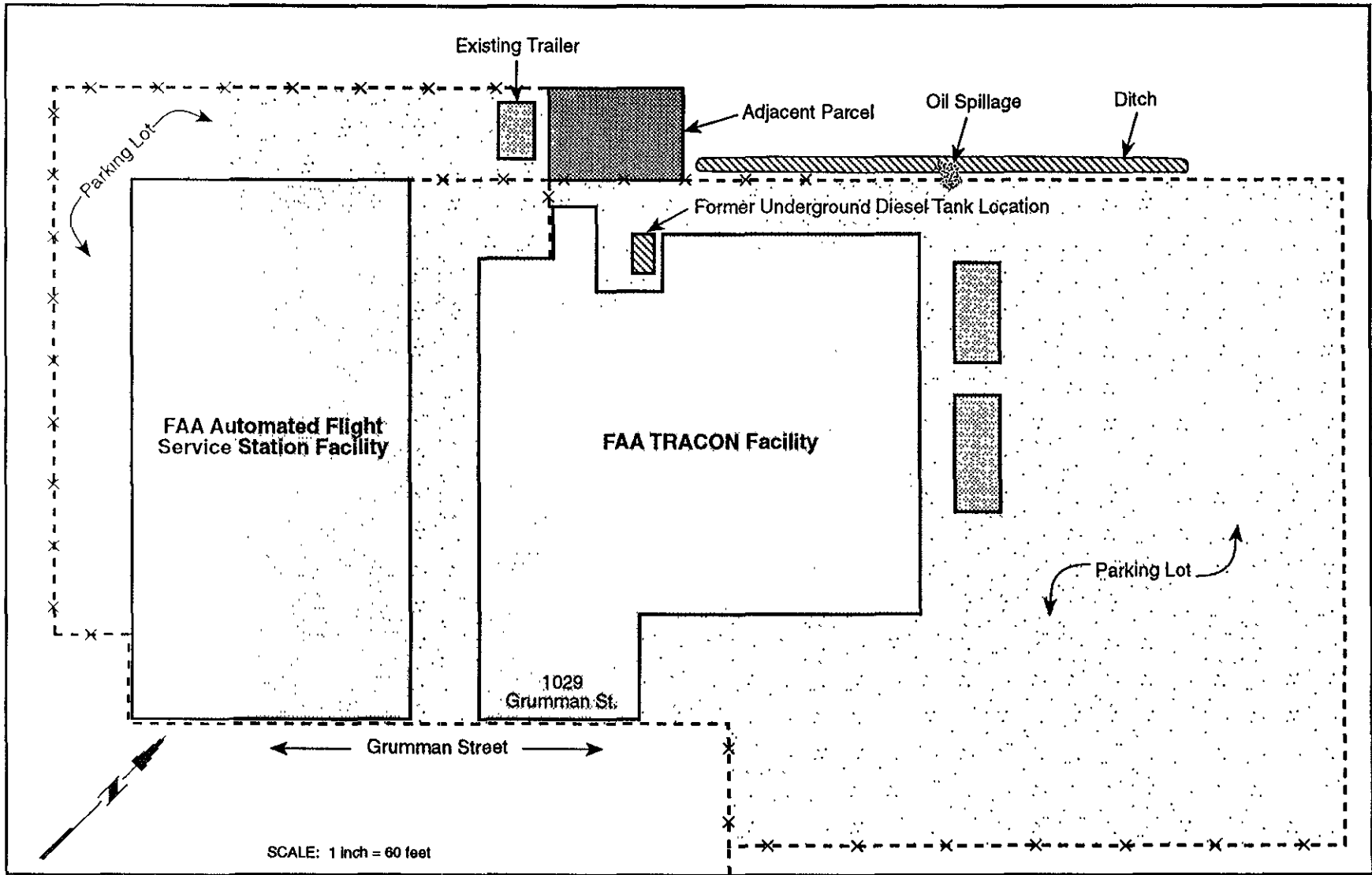


Scales: 1:24,000 Reference: U.S.G.S. San Leandro, Calif. 7 1/2 Minute Topographic Quadrangle Map



Site Location
Federal Aviation Administration
Oakland International Airport TRACON Facility
Site Investigation Proposal

PROJECT NO. 9788
FIGURE 1



Site Plan
FAA Oakland Airport TRACON Facility
Soil Remediation Proposal

PROJECT NO. 9788

FIGURE 2