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ENVIRO SOIL TECH CONSULTANTS

Environmental & Geotechnical Consultants

131 TULLY ROAD, SAN JOSE, CALIFORNIA 95111

Tel: (408) 297-1500 **Fax: (408) 292-2116**

ENVIRONMENTAL PROTECTION

99 JUL -1 PM 2:09

- if well is developed wait 1-2 days before sampling.
- more one purpose boring verify where bores were recommended during our meeting of 12/98

Bill Knight Dept for City of Berkeley

June 24, 1999

File No. 8-90-421-SI Orientation ctr for Client North End of Adams -

Ms. Eva Chu
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Room 250
Alameda, California 94502-6577

WORKPLAN FOR TWO SOIL BORINGS

SUBJECT: REPORTS ON THE PROPERTY
Located at 400 San Pablo Avenue, in
Albany, California

Dear Ms. Chu:

Submitted herewith are March 18 and June 3, 1999 quarterly groundwater monitoring & sampling and March 19, 1999 El Cerrito Creek sampling for your review and comments.

Per our December 1998 meeting and in compliance with your request, Figure A show the location of two proposed borings. The borings will be advanced by truck-mounted drill rig. These borings will extent at least 5 feet below the saturated zone and will be converted into temporary monitoring wells. Each temporary monitoring well will

665-3426

Storm Drain line being upgraded
Down to 12' bgs - no contam noted.
SB + SS are avail at City of Berkeley -
Bill Knight

7/26/99. Only Soil samples collected at 2' and 4' bgs. No water samples encountered.

be constructed of 2-inch diameter, clean, flush-threaded, Schedule 40 PCV blank and screened (0.020-inch slot size) temporary casing. Temporary well installation will follow the standard procedures required by ACHCSA and ESTC's Standard Operation Procedures (SOP) (attached with this letter).

The temporary monitoring wells will then be properly developed, purged and sampled in accordance with applicable regulations and guidelines of ACHCSA.

All wells including temporary wells will be surveyed as to location and elevation in reference to an established benchmark to within 0.01 foot. Depth-to-water in each well will be measured from the top to the casing using an electronic sounder. The wells will be monitored prior to sampling for presence or absence of any petroleum product.

Groundwater sampling will involve pumping and/or bailing approximately three to five well-casing volumes of water out of the well prior to sampling. Water clarity, pH , specific conductance, temperature and volume extracted will be measured during purging to determine when to sample, as applicable.

Groundwater samples will be collected using a Teflon bailer. Samples will be transferred into 40-ml VOA vials with Teflon septa and 1-liter amber-colored, glass bottles. The samples will be stored in a chilled cooler for delivery to the laboratory with proper documents.

Soil and groundwater samples from the temporary wells will be transported to a California certified laboratory for analyses following proper chain-of-custody procedures.

Soil and water samples will be analyzed for TPHd, TPHg with BTEX and MTBE distinction and petroleum hydrocarbons constituents [Volatile Organic Compounds (VOC')] by California LUFT method and EPA Methods 3510/8015, 5030/8015, 8020/602 and 8260B.

Upon completion of investigation, the temporary casing will be removed and all the borings will be sealed in accordance with ACHCSA's guidelines.

Should you have any questions or require additional information, please feel free to contact our office at (408) 297-1500.

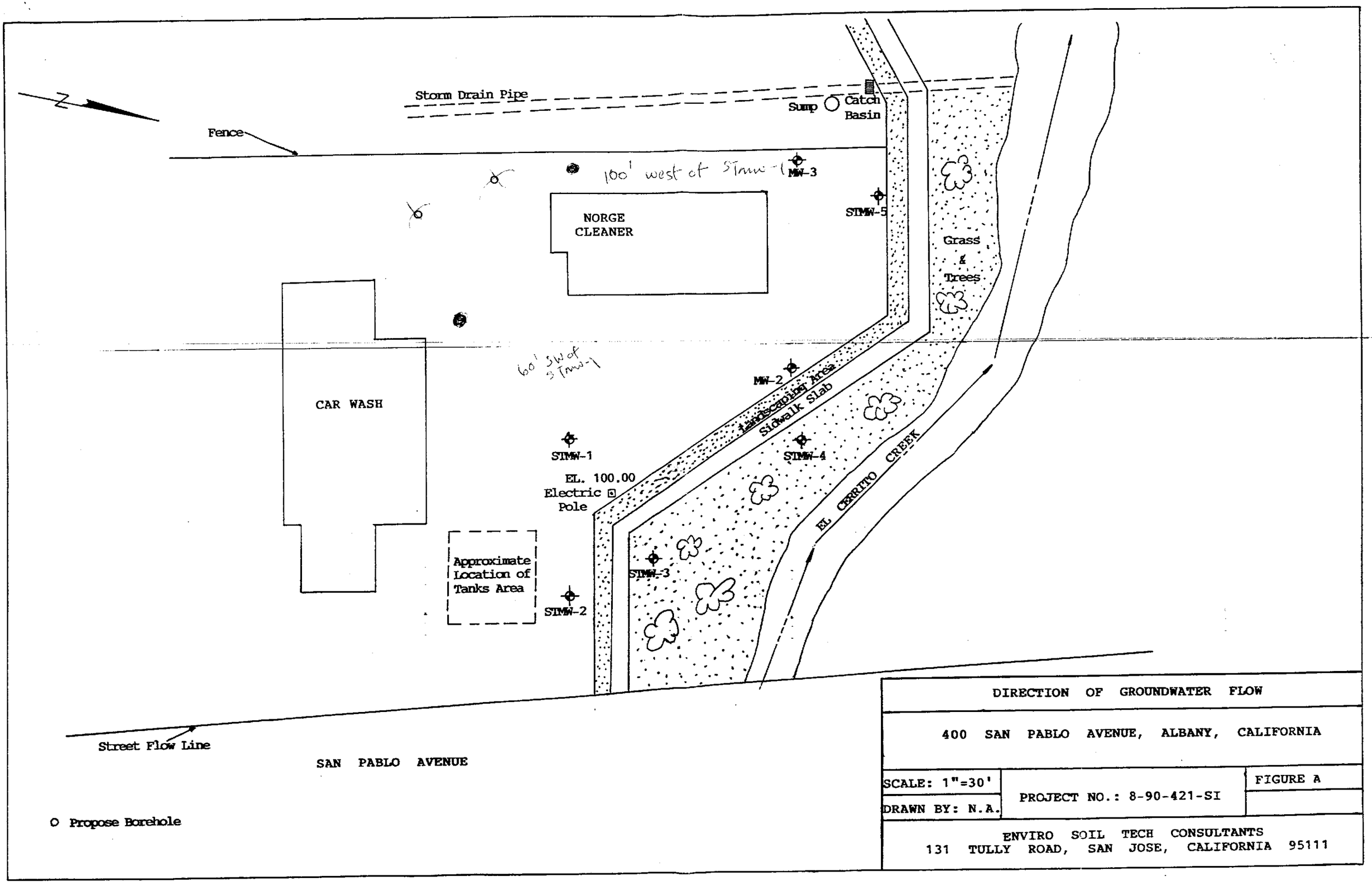
Sincerely,

ENVIRO SOIL TECH CONSULTANTS

FRANK HAMEDI-FARD
GENERAL MANAGER

LAWRENCE KOO, P. E.
C. E. #34928

cc: Mr. Murray Stevens, Kamur Industries, Inc.



DIRECTION OF GROUNDWATER FLOW

400 SAN PABLO AVENUE, ALBANY, CALIFORNIA

SCALE: 1"=30'	PROJECT NO.: 8-90-421-SI	FIGURE A
DRAWN BY: N.A.		

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File No. 8-90-421-SI

DRILLING AND SOIL SAMPLING PROCEDURE

Mobile drill rig B-40L, using a continuous, solid-flight, hollow stem auger will be used in drilling the soil borings to the desired depths.

Prior to drilling, all drilling equipment (auger, pin, drilling head) will be thoroughly steam-cleaned to minimize the possibility of cross-contamination and/or vertical migration of possible contaminants.

In addition, prior to obtaining each individual soil sample, all sampling tools, including the split-spoon sampler and brass liners will be thoroughly washed in a Tridsodium Phosphate (TSP) solution followed by a rinse in distilled water.

During the drilling operation, relatively undisturbed soil samples will be taken from the required depth by forcing a 2-inch I.D. split-spoon sampler insert with a brass liner into the ground at various depths by means of a 140 lb. hammer falling 30-inches or by hydraulic forces.

The samplers will contain relatively undisturbed soil. In general, the first section of soil from the sampler (shoe) will be used in the field for lithologic inspection and evidence of contamination. The selected brass liner will be immediately trimmed, the ends of the brass liner will be covered tightly with aluminum foil and plastic caps, sealed with tape, labeled, placed in a plastic bag and stored in a cold ice chest in order to minimize the escape of any volatile present in the samples. Soil samples for analysis will then be sent to a state-certified hazardous waste laboratory accompanied by a chain-of-custody record.

how many will be collected from each boring

Soil samples collected at each sampling interval will be inspected for possible contamination (odor or peculiar colors). Soil vapor concentrations will be measured in the field by using a Photoionization Detector (PID), Photovac Tip Air Analyzer. The soil sample will be sealed in a Zip-Loc plastic bag and placed in the sun to enhance volatilization of the hydrocarbons from the sample. The purpose of this field analysis is to qualitatively determine the presence or absence of hydrocarbons and **to establish which soil samples will be analyzed at the laboratory.** The data will be recorded on the drilling log at the depth corresponding to the sampling point.

Other soil samples may be collected to document the stratigraphy and estimate relative permeability of the subsurface materials.

Soil tailings that are obtained during drilling will be stored at the site, pending the analytical test results to determine proper disposal.

File No. 8-90-421-SI

MONITORING WELL INSTALLATION

The boreholes for the temporary monitoring wells will be hand augered with a diameter of at least two inches larger than the casing outside diameter (O.D.).

The temporary monitoring wells will be cased with threaded, factory-perforated and blank, Schedule 40 PVC. The perforated interval consisted of slotted casing, generally 0.010 to 0.040 inch wide by 1.5 inch long slot size, with 42 slots per foot (slots which match formation grain size as determined by field grain-size distribution analysis). A PVC cap will be fastened to the bottom of the casing (no solvents adhesive, or cements will be used), the temporary well casing will be thoroughly washed and steam-cleaned.

File No. 8-90-421-SI

WELL DEVELOPMENT

For all newly installed temporary groundwater monitoring wells, the well casing, filter pack and adjacent formations were cleared of disturbed sediment and water.

what kind of filter pack?

Well development techniques including pumping, bailing, surging, swabbing, jetting, flushing or air lifting by using a stainless steel or Teflon bailer, a submersible stainless steel pump, or air lift pump. The well development will continued until the discharged water appeared to be relatively free of all turbidity.

All water and sediment generated by well development will be collected in 55-gallon steel drums (Department of Transportation approved), closed head (17-H) for temporarily storage, and then will be disposed of properly, depending on analytical results.

To assure that cross-contamination did not occur between wells, all well development tools will be steam-cleaned or thoroughly washed in Trisodium Phosphate (TSP) solution followed by a rinse in distilled water before each well development.

File No. 8-90-421-SI

GROUNDWATER SAMPLING

Prior to collection of groundwater samples, all of the sampling equipment (i.e. bailer, cables, bladder pump, discharge lines and etc...) will be cleaned by pumping TSP water solution followed by distilled water.

The temporary well will be bailed or pumped to remove four to ten well volumes or until the discharged water temperature, conductivity and pH stabilized. "Stabilized" is defined as three consecutive readings within 15% of one another.

The groundwater sample will be collected when the water level in the well recovered to 80% of its static level.

Forty milliliter (ml.) glass volatile organic analysis (VOA) vials with Teflon septa will be used as sample containers. The groundwater sample will be decanted into each VOA vial in such a manner that there will be a meniscus at the top. The cap quickly will be placed over the top of the vial and securely tightened. The VOA vial will then be inverted and tapped to see if air bubbles is present. If none is present, then the sample will be labeled and refrigerated for delivery under chain-of-custody to the laboratory. The label information should include a sample identification number, job identification number, date, time, type of analysis requested and the sampler's name.

water sample should not be collected same day of development.