# WORK PLAN
# USE OF STOCKPILED SOIL
# AT
# 6000 S CORPORATION
# 6000 Stevenson Boulevard
# Fremont, CA 94

**Prepared For**

**6000 S Corporation**
**42080 Osgood Road**
**Fremont, CA 94539**

**Prepared By**

**All Environmental, Inc.**
**2641 Crow Canyon Road, Suite 5**
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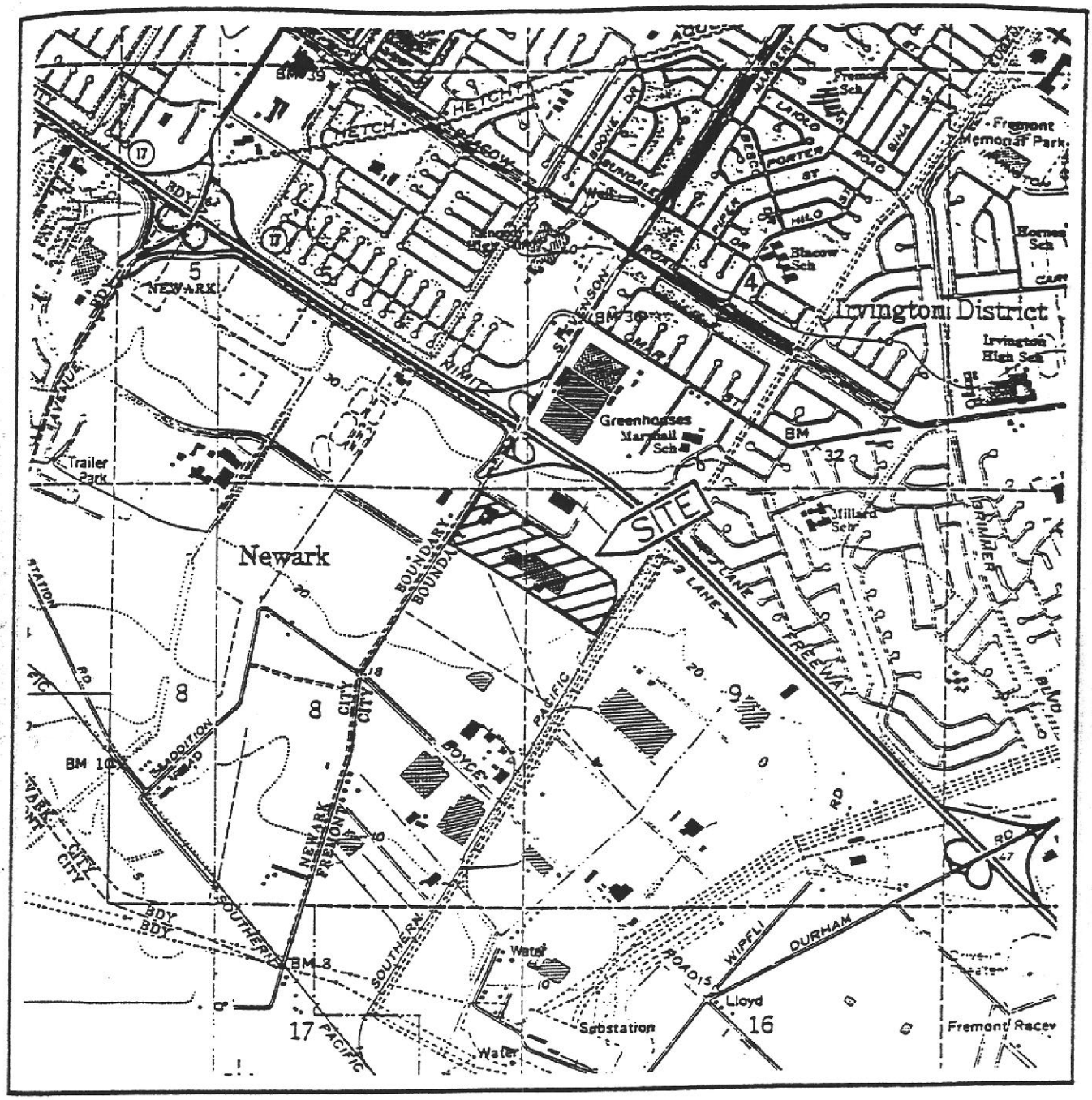
7/22/94

**July 22, 1994**

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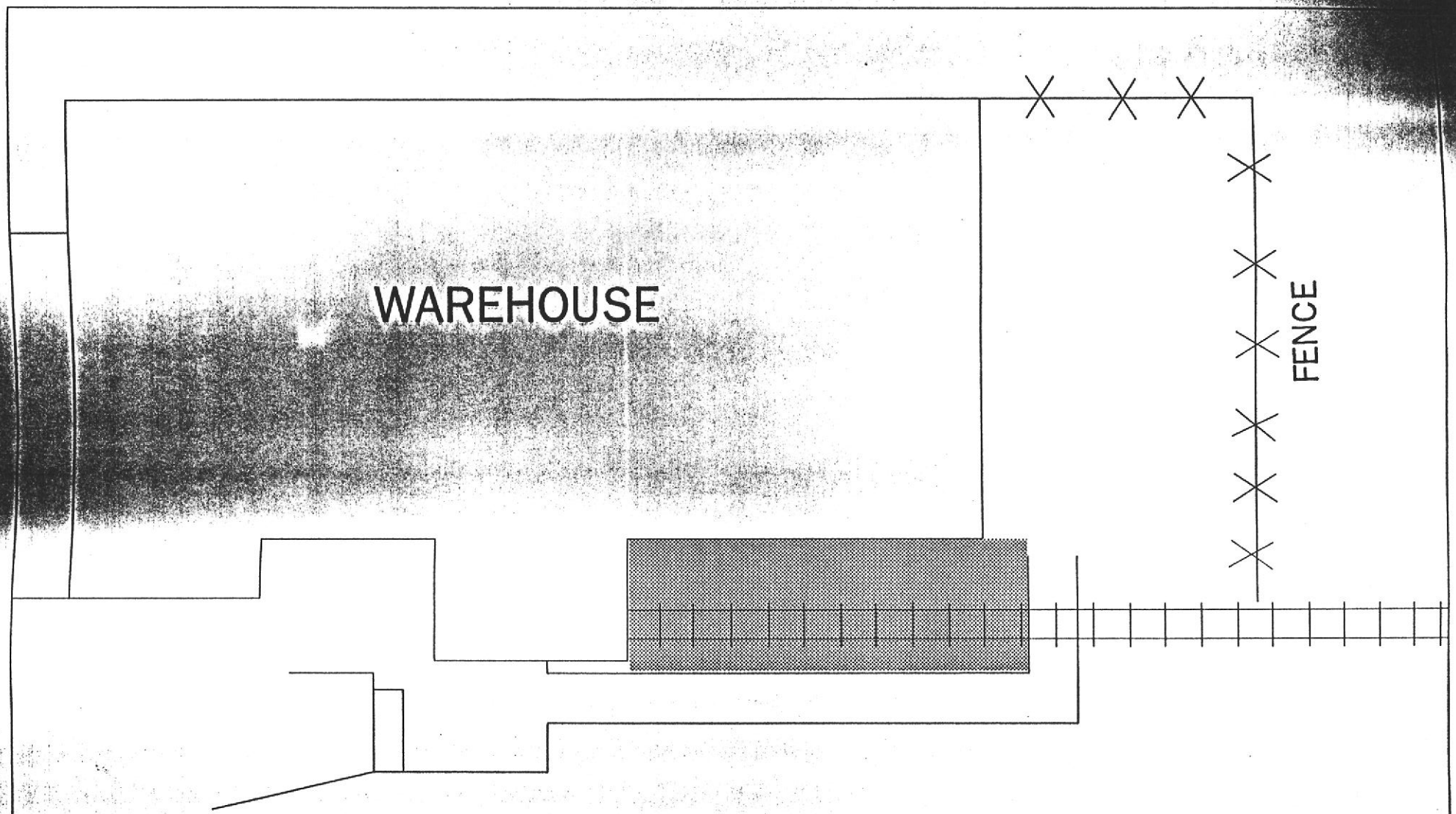
SOURCE: U.S. GEOLOGICAL SURVEY
7.5 MINUTE QUADRANGLE
NEWARK/NILES, CALIFORNIA
PHOTOREVISED 1981

| ALL ENVIRONMENTAL, INC.<br>2641 CROW CANYON ROAD, SAN RAMON | | |
|---|---|---|
| SCALE: 1" = 2000 FEET | APPROVED BY: | DRAWN BY: J.S. ANDERSON |
| DATE: 22 JULY 94 | | REVISED: J.S. ANDERSON |
| SITE LOCATION MAP | | |
| 6000 STEVENSON BOULEVARD<br>FREMONT, CALIFORNIA | | DRAWING NUMBER:<br>FIGURE 1 |





FILL AREA

**ALL ENVIRONMENTAL, INC.**
2641 CROW CANYON ROAD, SAN RAMON

| | | |
|---|---|---|
| SCALE: NOT TO SCALE | APPROVED BY: | DRAWN BY: J.S. ANDERSON |
| DATE: 22 JULY 94 | | REVISED: J.S. ANDERSON |

FILL AREA - LOADING DOCK

6000 STEVENSON BOULEVARD
FREMONT, CALIFORNIA

DRAWING NUMBER:
FIGURE 2

## 3.0 Geology

The project site is located near the distal end of the Niles Cone, and the near surface sediments beneath the site are alluvium. These surface sediments have been described (Helley 1979) as medium-grained alluvium, consisting of fine-grained sand, silt and clayey silt with occasional thin beds of coarse-grained sand, and containing minor amounts of organic matter. The medium-grained alluvium ranges from 0 to 12 ft. thick and interfingers with, and grades into, finer-grained basin (marshland) deposits adjacent to San Francisco Bay. Drilling at the site by HLA in 1990 showed sand and silty sand to approximately 15 ft. below ground surface, with silt and clay between 15 and 26 ft. below grade. This is consistent with the general geology of the area.

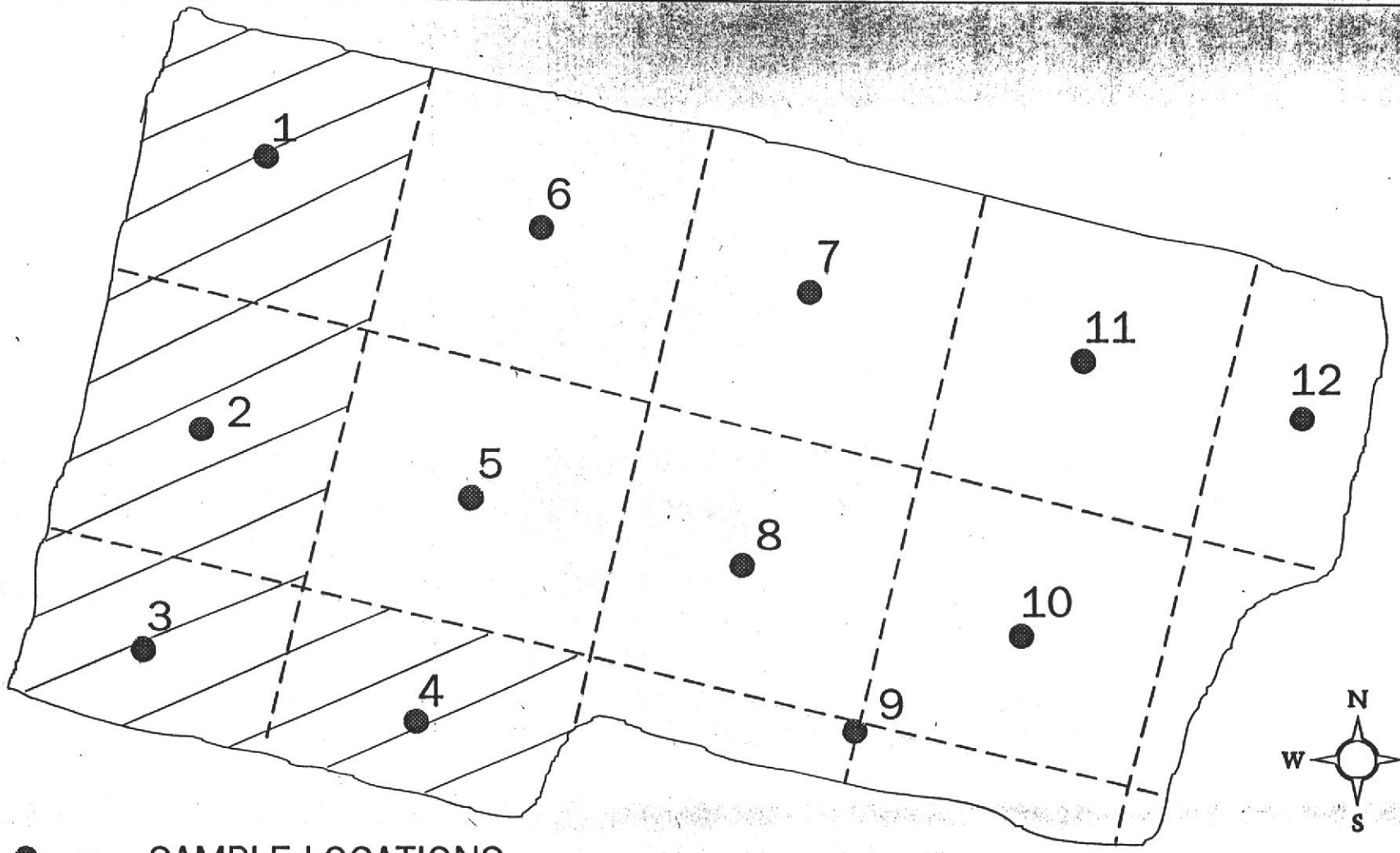
Within the Niles Cone, permeable sediments (aquifers) are separated by relatively impermeable sediments (aquitards). The Newark Aquitard is at or near the ground surface in much of the Fremont Newark area, and may be 50 or more feet thick. The Newark Aquifer, which underlies the Newark Aquitard, extends to approximately 175 below ground level. In the vicinity of the project site, sand and gravel units of the Newark Aquifer extend from approximately 40 ft. to 125 ft. below ground according to the California Department of Water Resources. Shallow ground water, which occurs in the Newark Aquitard sediments, is approximately 15 to 19 ft. below ground surface (HLA 1990). Ground water flow direction is south, south east, based on sampling from five groundwater monitoring wells by All Environmental in April, 1994.

## 4.0 Project Description

6000 S Corporation desires to use the stockpiled soil as fill onsite. Approximately 2000 cu. yds. of the fill will be capped with concrete to form a loading ramp and storage area. The balance will be used along with imported soil to raise the level of the property for new construction in the north west part of the site.

CWI sampled the stockpiled soil in March, 1993. The stockpile, which measures 132 ft. by 228 ft. by 3 ft. high, was divided into 50 ft. square grids for sampling, as shown on Figure 3, Stockpiled Soil Sample Grid. Samples were taken from the center of eleven grids and from the intersection of grids 8, 9, and 10, at depths of 1 ft. and 2.5 ft., for a total of 24 samples, to characterize the entire stockpile. These were composited for analysis into 6 samples and analyzed for TPH Diesel, Oil & Grease, and Aroclor. The sample procedure is described in detail in CWI Report "Soil Boring and Monitoring Well Construction and Stockpile Soil Sampling", dated April 30, 1993.

Sample results are presented in Table 1 below. Sample numbers 1, 2 & 3 were taken at 1 ft. depth, samples 4, 5 & 6 at 2.5 ft. depth. Sample nos. 1 and 4 were composites of grids 1, 2, 3 & 4, sample nos. 2 and 5 were composites of grids 5, 6, 7 & 8, and sample nos. 3 and 6 were composites of grids 9, 10, 11 and 12.




1 ● = SAMPLE LOCATIONS

---- = SAMPLE GRID

APPROXIMATE SCALE

30 15 0 30 60

FEET

**ALL ENVIRONMENTAL, INC.**
2641 CROW CANYON ROAD, SAN RAMON

| | | |
|---|---|---|
| SCALE: 1" = 30 FEET | APPROVED BY: | DRAWN BY: J.S. ANDERSON |
| DATE: 22 JULY 94 | | REVISED: J.S. ANDERSON |

STOCKPILED SOIL SAMPLE GRID

6000 STEVENSON BOULEVARD
FREMONT, CALIFORNIA

DRAWING NUMBER:
FIGURE 3

Table 1 - Sample Analyses

| Sample | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| TPHD | 1.6 | 140 | 5 | 3.3 | 1.5 | 1.2 |
| Oil & G | ND | 97 | 205 | ND | ND | 58 |
| Ar 1254 | 0.58 | 0.74 | ND | 0.48 | 0.3 | 0.85 |

All results are in mg/Kg (ppm)
TPHD - total petroleum hydrocarbons as diesel
Oil & G - Oil and Grease by EPA method 5520 BF
Ar 1254 - Aroclor 1254, polychlorinated biphenyl (PCB)

## 5.0 Proposed Action

6000 S Corp. proposes to use the stockpiled soil as fill in appropriate locations on site.

Grid nos. 1, 2, 3 & 4, represented by sample nos. 1 and 4 in Table 1, contains approximately 1000 cu yds of soil. The contamination on a weighted average basis is approximately 2.5 ppm TPH Diesel, and 0.53 Aroclor 1254 (PCB). Thus the contamination is insignificant in this soil, allowing its use anywhere fill soil is needed.

Grid nos. 5 thru 12, represented by sample nos. 2, 3, 5 and 6 in Table 1, contains approximately 2000 cu yds of soil. The contamination on a weighted average basis is approximately 37 ppm TPH Diesel, and 90 ppm Oil & Grease. The weighted average numbers are simple averages of the four samples making up the total, since each sample represents an equal quantity (and weight) of soil. This represents relatively minor levels of contamination. Both the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, and the

Leaking Underground Fuel Tank (LUFT) Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure, use 100 ppm TPH Diesel or Oil and Grease as an action level, below which overexcavation and/or groundwater testing are generally not required. The LUFT manual provides a table (Table 2-1, page 29), to permit estimating the concentrations of TPH gasoline, TPH Diesel and BTEX which can be left in place without posing a threat to groundwater. For the 6000 S site, the "points" total is 39. For 40 points or less, the allowable concentration of TPH Diesel is 100 ppm. With a scant 2 point increase, this safe level increases to 1000 ppm. While these guidelines relate to leaving contaminated soil in place rather than using it for fill, they are aimed at protecting groundwater and should be applicable in either case. In addition, 6000 S Corp. is planning to cap the compacted fill with concrete, thus eliminating the possibility of rainwater leaching of contaminants into groundwater.

To summarize, 6000 S Corporation is seeking approval to use approximately 1000 cu yds of stockpiled soil as clean fill in an area of new construction, and approximately 2000 cu yds of soil with relatively moderate levels of contamination from diesel and oil and grease, as fill material to extend a loading and storage area adjacent to a warehouse. The compacted soil will be capped with concrete. Contaminant levels are:

| Contaminant | Peak Level in ppm | Average Level in ppm |
|---|---|---|
| TPH Diesel | 140 | 37 |
| Oil and Grease | 205 | 90 |

Before the material is removed from the stockpile, it will be mixed by turning and moving with a backhoe or loader. It will be mixed again when transferred and placed in the fill area. Thus

the peak concentration of contaminants will be between the peak and average levels shown above, with every effort made to try to achieve a homogeneous material with respect to contamination. Finally, the compacted fill will be capped with concrete. Thus the proposed action will eliminate the stockpile of material from the site without having to transport it on city streets to a disposal site, and without posing any threat to groundwater.

## 6.0 Reference Documents

A number of environmental studies of the site have been completed by several different consulting firms. Below are several relevant reports of previous work:

Harding Lawson Associates (HLA) report - Site Characterization Investigation, 6000 Stevenson Boulevard, Fremont, CA, dated November 6, 1990.

Clark & Withim, Inc. (CWI) Work Plan dated January 26, 1993.

Clark & Withim, Inc. (CWI) report - Soil Boring and Monitoring Well Construction, and Stockpile Soil Sampling, dated April 30, 1993.