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

Revision No. 1

Prepared For

6000 S Corporation
42080 Osgood Road
Fremont, CA 94539

8/30/94

Prepared By

All Environmental, Inc.
2641 Crow Canyon Road, Suite 5
San Ramon, CA 94583

August 30, 1994

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	PROJECT LOCATION	1
3.0	GEOLOGY	2
4.0	PROJECT DESCRIPTION	3
5.0	PROPOSED ACTION	4
6.0	REFERENCE DOCUMENTS	6

LIST OF FIGURES

FIGURE 1	SITE LOCATION MAP
FIGURE 2	STOCKPILED SOIL SAMPLE GRID
FIGURE 3	STOCKPILED SOIL RELOCATION
FIGURE 4	STOCKPILES of CLEAN and CONTAMINATED SOIL

1.0 Introduction

6000 S Corporation has stockpiled soil excavated from prior activities at 6000 Stevenson Blvd., Fremont (Figure 1, Site Map). 6000 S Corporation desires to use this excavated soil as fill material on site.

The stockpile was sampled and analyzed by Harding Lawson Associates (HLA) in September 1990, and again in March 1993 by Clark & Witham, Inc. (CWI). Most samples analyzed ND or insignificant levels of TPH Diesel, Oil and Grease, and Aroclor (PCB). Minor levels of contamination were found in some samples by both investigators; TPH Diesel up to 140 ppm, Oil and Grease up to 205 ppm, and Aroclor (PCB) up to 0.85 ppm.

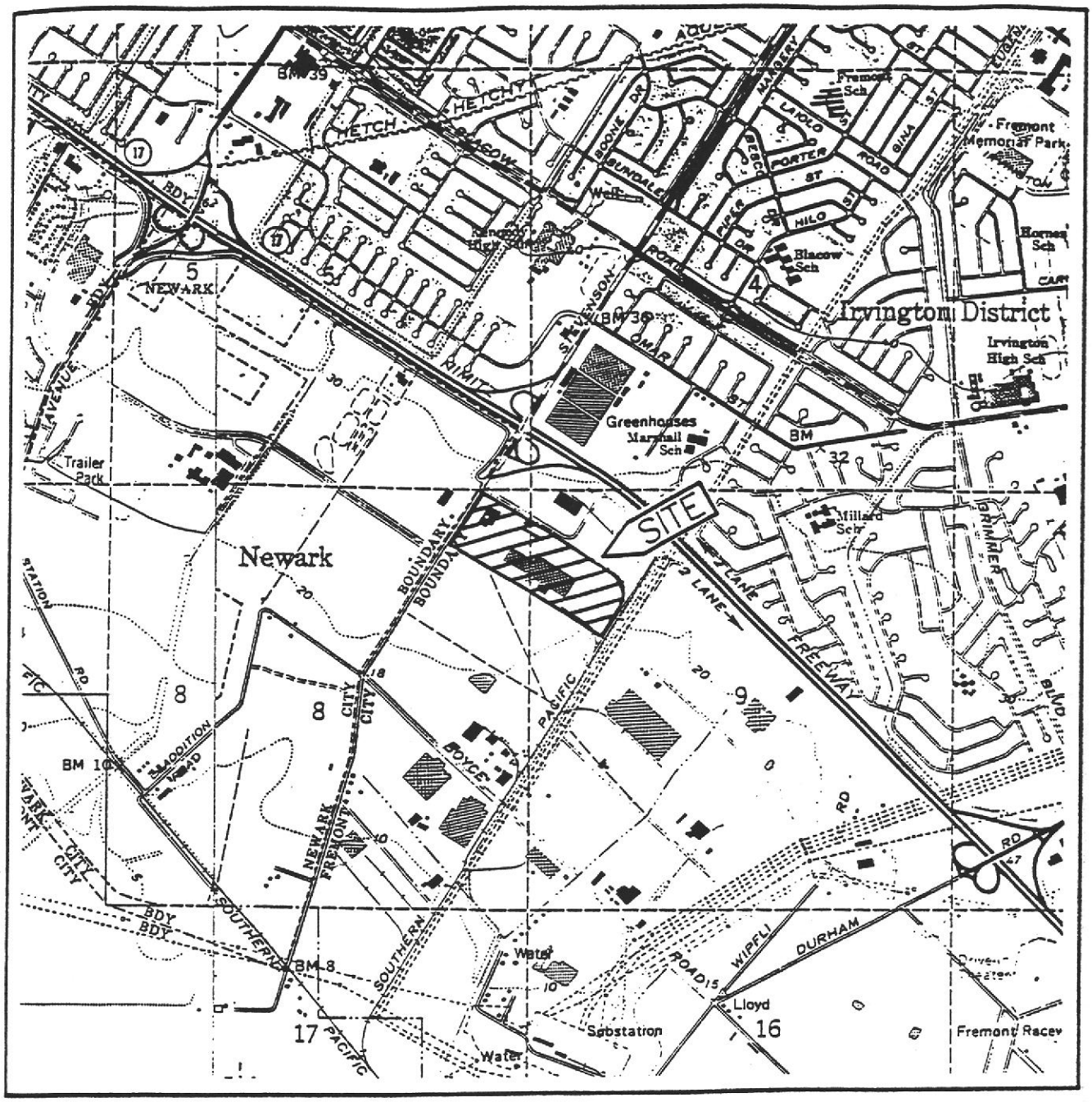
All Environmental, Inc. (AEI) prepared a Work Plan for 6000 S Corporation in July 1994, covering use of approximately 2000 cu. yds. of moderately contaminated soil to build a concrete capped loading dock adjacent to a warehouse building. This work plan was rejected by the Alameda County Water District whose policy precludes use of contaminated soil for fill material on private sites within the District.

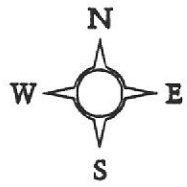
AEI has prepared this revised work plan to cover use of approximately 1000 cu. yds. of essentially non-contaminated soil for on site fill, and to evaluate on site treatment such as aeration, thermal processing or bioremediation for the remainder.

2.0 Project Location

The project site is approximately 2000 ft. southwest of the intersection of I-880 and Stevenson Boulevard in Fremont, CA. This is shown on Figure I - Site Map.

The site is approximately 40 acres and is occupied by commercial





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

ALL ENVIRONMENTAL, INC. 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 FREMONT, CALIFORNIA		DRAWING NUMBER: FIGURE 1

buildings and associated parking, including a Home Depot warehouse/store. It is surrounded by commercial buildings and vacant land. The property is bounded by Stevenson Boulevard on the northwest, Albrae Street on the northeast, Encyclopedia Circle on the southwest, and a PG&E easement along Stewart Avenue on the southeast.

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

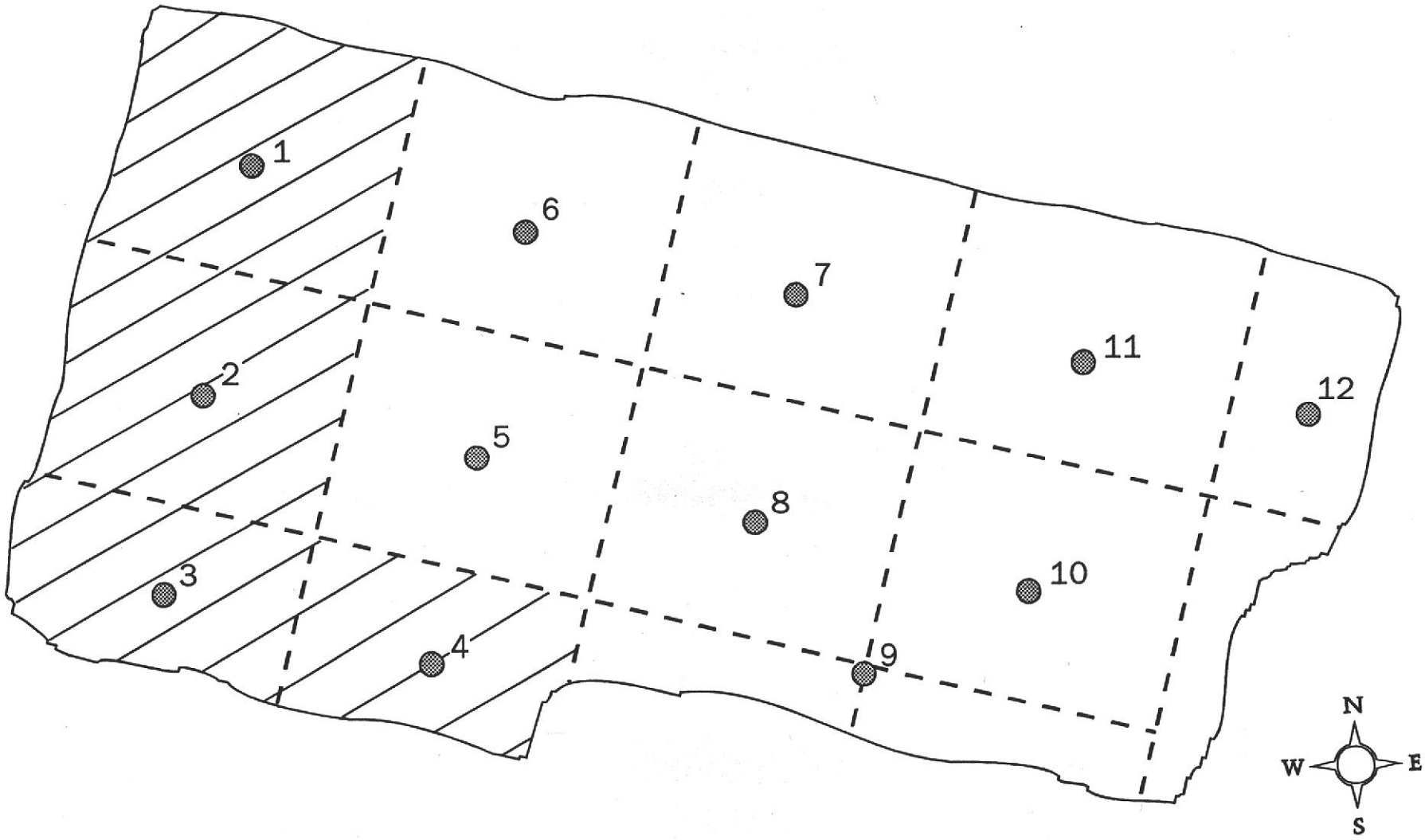
approximately 15 to 19 ft. below ground surface (HLA 1990). Ground water flow direction is south, south east, based on sampling from five groundwater monitoring wells by All Environmental in April, 1994.

4.0 Project Description

6000 S Corporation desires to separate the stockpiled soil into two stockpiles, one essentially contaminant free for unrestricted immediate use on site, and one requiring further treatment prior to use on 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 2, 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: 29 AUGUST 94		REVISED: J.S. ANDERSON
STOCKPILED SOIL SAMPLE GRID		
6000 STEVENSON BOULEVARD FREMONT, CALIFORNIA		DRAWING NUMBER: FIGURE 2

Table 1 - Sample Analyses

Sample	1	2	3	4	5	6
Depth in ft.	1	1	1	2.5	2.5	2.5
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)

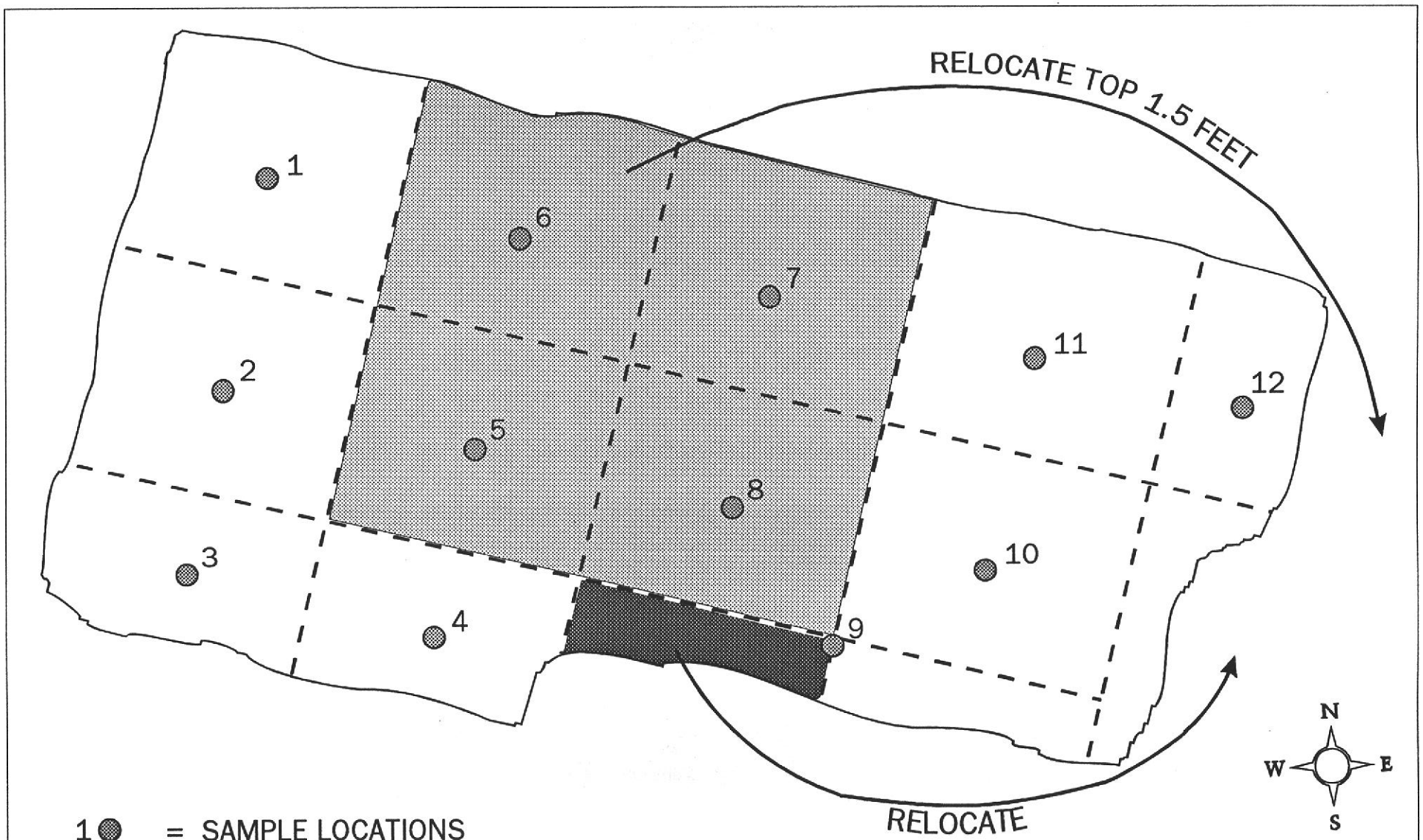
5.0 Proposed Action

6000 S Corp. proposes to separate the stockpiled soil into a clean pile and a contaminated pile. Following confirmation sampling, the clean pile will then be used on site for fill. The contaminated pile will be treated on site prior to use, or disposed of off site, depending upon the results of an evaluation of alternatives.

Sample nos 1, 4 and 5 show insignificant levels of hydrocarbons and Aroclor, allowing use of this soil without restriction, providing that confirmation sampling confirm these levels.

Sample nos. 2, 3 and 6 show significant levels of contamination, requiring some form of treatment prior to use on site.

The single stockpile of soil will be separated into two piles as follows (refer to Figure 3 - Stockpiled Soil Relocation):



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: 29 AUGUST 94		REVISED: J.S. ANDERSON

STOCKPILED SOIL RELOCATION

6000 STEVENSON BOULEVARD
FREMONT, CALIFORNIA

DRAWING NUMBER:
FIGURE 3

The grid lines separating sections 1 & 6, 2 & 5, 5 & 4, 8 & 9, 8 & 10 and 7 & 11 will be marked (see Figure 3).

Approximately 1.5 to 2 ft. of soil will be removed from grids 5, 6, 7 & 8 and placed adjacent to grids 10, 11 and 12 (on the east side).

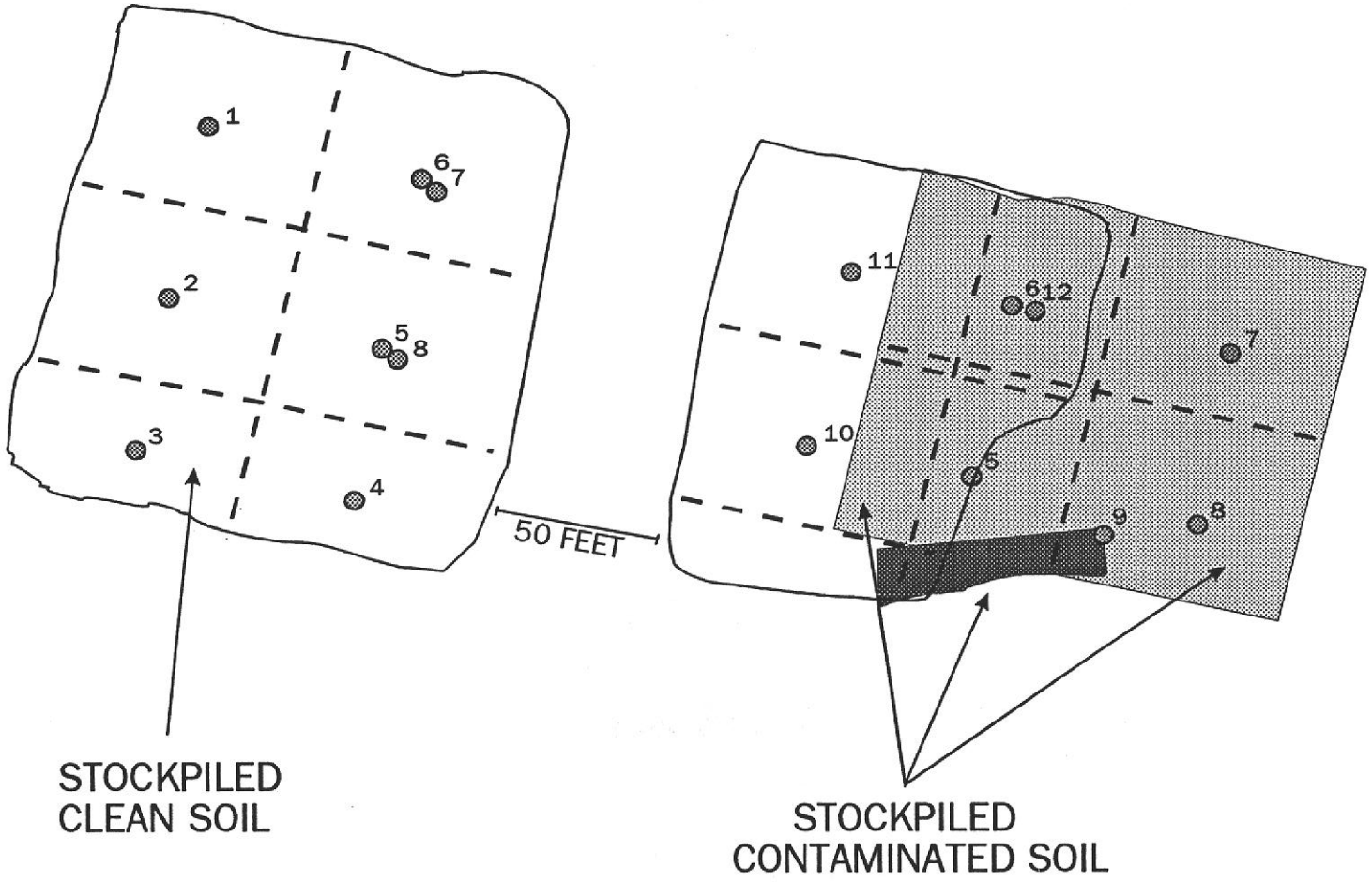
Half of grid 9 will be removed and placed on or near the relocated soil from the top of grids 5, 6, 7, and 8 (east side of pile).

The remaining soil (bottom 1 to 1.5 ft.) from grids 7 and 8 will be removed and placed on top of grids 5 and 6.

This will form two separate stockpiles separated by some 50 ft. as shown in Figure 4 - Stockpiles of Clean and Contaminated Soil. The clean stockpile will measure approximately 128 ft. by 100 ft. by 3 ft. high. Samples will taken from the center of each new 50 ft. square grid (6 & 7 and 5 & 8), at depths of 1 ft. and 2.5 ft. using a standard hand auger and sampler. Each sample will be analyzed for TPH Diesel (EPA 3550 or 3510/8015), Oil and Grease (SM 5520 B&F) and PCB (Aroclor 1254) (EPA 608/8080). This will yield one sample result for each 140 cu yds. of soil from this sampling event. However, the soil has been analyzed at least twice prior, so that on a total analyses basis, sample density is approximately one sample for each 50 cu. yds. of soil.

Grid nos. 1, 2, 3 & 4 are not being re-sampled since they have not been disturbed and prior analyses showed this soil to be "clean".

If the results from this new sampling confirm the earlier results, this stockpile will be used as fill material wherever needed on site.



1 = SAMPLE LOCATIONS

= SAMPLE GRID

N
W E
S

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

SCALE: 1" = 30 FEET	APPROVED BY:	DRAWN BY: J.S. ANDERSON
DATE: 29 AUGUST 94		REVISED: J.S. ANDERSON

STOCKPILES OF CLEAN AND CONTAMINATED SOIL

6000 STEVENSON BOULEVARD
FREMONT, CALIFORNIA

DRAWING NUMBER:
FIGURE 4

AEI and 6000 S Corporation will evaluate alternative treatment methods for the contaminated soil and will prepare an appropriate work plan following this evaluation.

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.

All Environmental, Inc. (AEI) Work Plan dated July 22, 1994.