TERRATECH

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October 25, 1990
Project 4454/4

Ms. Pamela Evans
Alameda County Health Agency
80 Swan Way, Room 200
Oakland, California 94621

Subject: Statistical Confirmation of Pesticide Concentrations
Laguna Park Lots 5 and 12
Hayward, California

Dear Ms. Evans:

Pursuant to the agreement reached in the meeting on October 22nd, we have reviewed EPA Manual SW-846 and have prepared this letter presenting our plans for confirmatory sampling. Technical assistance on statistical computations was provided by Scott Wolff of ERS, the project risk assessor. This work is a followup to the finding of residual traces of pesticides at Lots 5 and 12 of the Plymouth Group's Laguna Park development.

The northwestern portion of Lot 5 where surficial soils were excavated is an area about 26 ft by 32 ft (see Figure 1). We subdivided this area into an imaginary 10 by 10 grid of equal area cells, numbered sequentally from 1 to 100, east to west, north to south (see Figure 2). One soil sample will be collected from the center of 3 randomly selected cells (36, 79 and 21). The random number generator in our IBM PC's BASIC programming language was utilized, using 5 (the lot number) as the "seed" number.

NOTE: According to Scott Wolff's computations using the existing data and the EPA SW-846 formulas, testing only one random sample will provide a 95% confidence level that residual pesticides are below health concerns, assuming the pesticide concentrations in this random test are not much greater than those already found. From a statistical prospective, the residual concentrations measured are not "significantly" above the detection limits. To be conservative and to cover the possibility that slightly higher residuals are found (which will become part of the final computation), we are recommending three samples be collected and tested for EPA 8080 pesticides. For the record, it is our assessment that just a 80% confidence level will satisfy EPA SW-846.

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Project 4454/4 October 25, 1990

Regarding Lot 12, it is our opinion that the circumstances best suited the verification technique that was performed (a sample from directly below the discovered 300 gallon tank) and not a random approach, particularly considering the low mobility of the target contaminants. This is analogous to a tank removal where you collect the initial sample(s) from specific points (e.g. beneath the fill pipe) and not randomly from the excavation bottom. If the concentrations found in the initial (worst case) sample are acceptable, as it has been agreed they are, no followup sampling is needed.

Besides the random siting of sample locations, Terratech's techniques of collecting, packaging and transporting samples and Anametrix's techniques of testing complied with EPA SW-846.

We look forward to the Agency's prompt response to the plan described. Specific questions on the statistical computations, if there are any, can be directed to Scott Wolff at (415) 392-7422.

Sincerely,

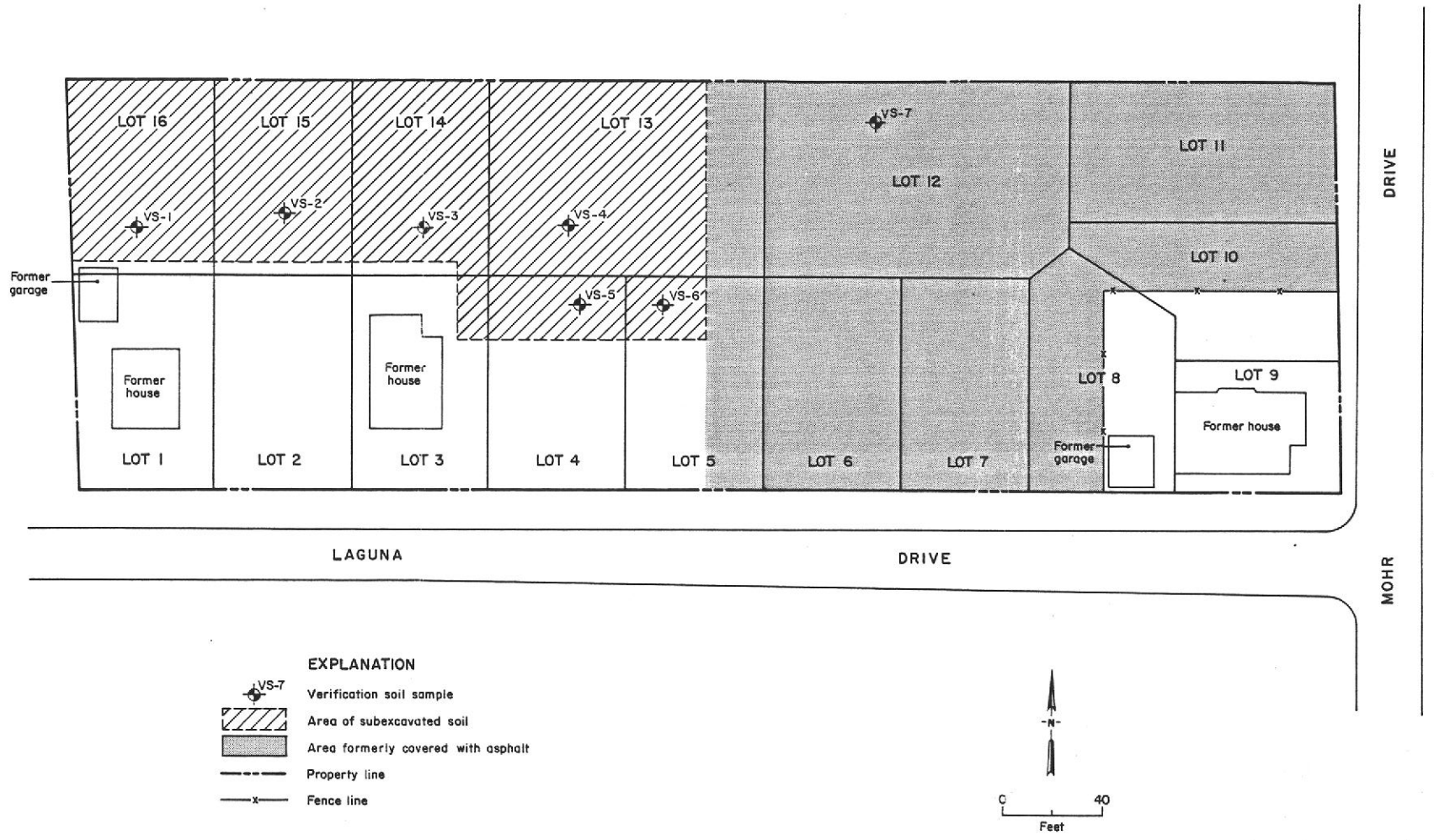
TERRATECH, INC.

E. R. Lautenbach

Eric R. Lautenbach
CE 42437

Attachments

cc: Hugh Murphy, Hayward Fire Department
Laura Rice, The Plymouth Group



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May 1990

LAGUNA CLOSURE
SUNNYSIDE NURSERY
HAYWARD, CALIFORNIA

VERIFICATION SAMPLE AND SUBEXCAVATION LOCATION

FIGURE 1

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SAN JOSE BLUEPRINT CO.
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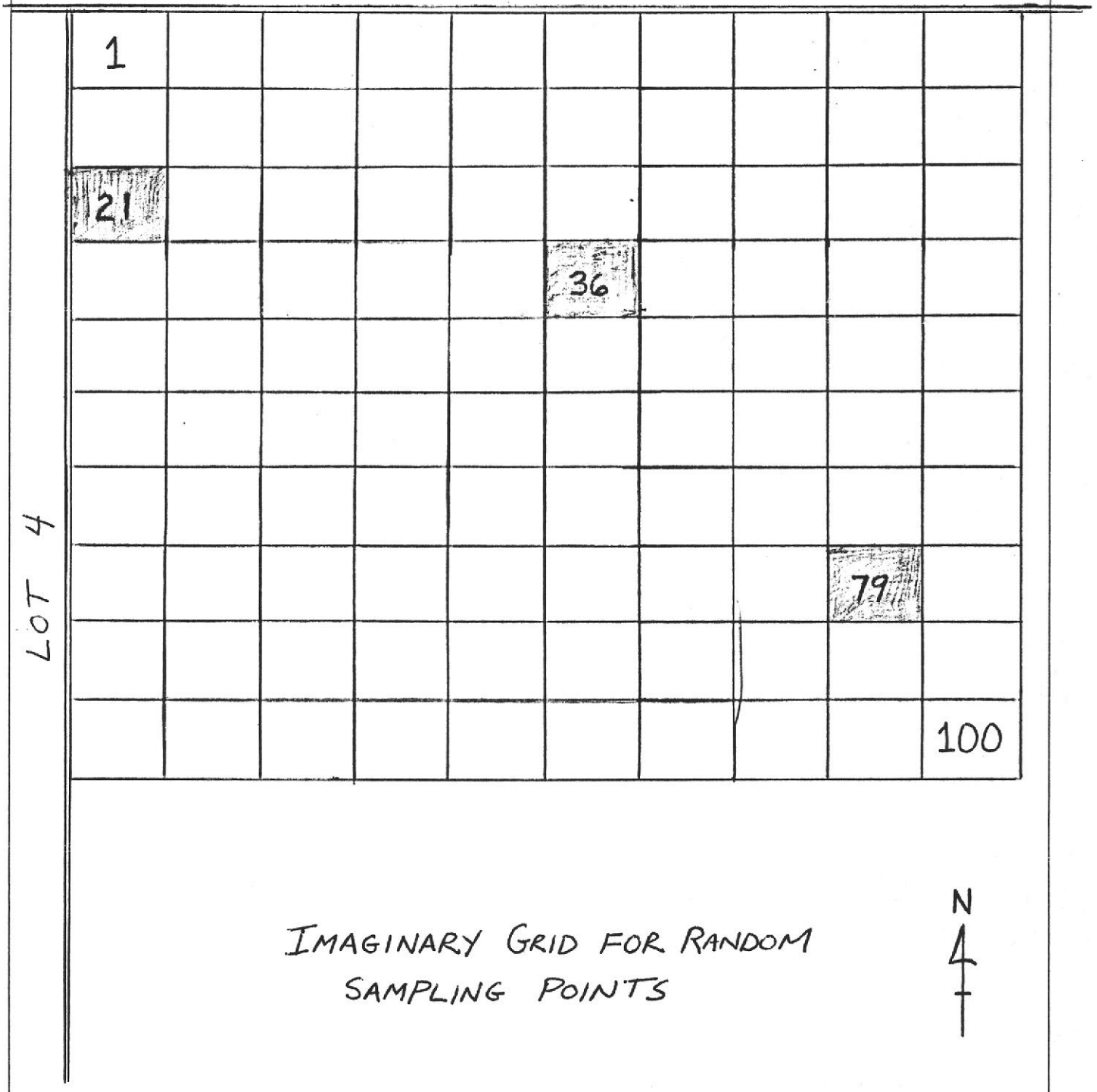
PROJECT 4454/4 | FIGURE 2 | OCTOBER 25, 1990

LOT 13



IMAGINARY GRID FOR RANDOM SAMPLING POINTS

N

TERRATECH, INC.
1"=5'

LAGUNA PARK LOT 5
HAYWARD, CALIFORNIA