

# RMC LONESTAR

ENVIRONMENTAL  
PROTECTION

96 SEP 16 PM 4: 16

6601 Koll Center Parkway  
P.O. Box 5252  
Pleasanton, CA 94566  
(510) 426-8787

September 13, 1996

9/17/96 Verbal approval of  
workplan w/ B. Statley

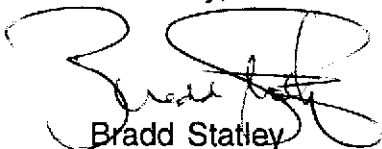
Ms. Eva Chu  
Alameda County  
Department of Environmental Health  
Environmental Protection Division  
1131 Harbor Bay Pkwy, Room 250  
Alameda, CA 94502-6577

**RE: 1544 Stanley Blvd., Pleasanton  
Sampling Workplan for Stockpiled Soil**

Dear Ms. Chu:

Attached please find our sampling workplan for the petroleum contaminated waste pile located at our Eliot Aggregate plant in Pleasanton. The soil samples will be analyzed for TPH-d (3550/8015), BTEX (8020), and Oil and Grease (5520 D&F). We would like to begin this sampling before the end of September. We shall wait for your departments approval before starting this project. Should you have any questions please give me a call at (510) 426-2279.

Sincerely,



Bradd Statley  
Environmental Projects Manager

## WORK PLAN for ELIOT WASTE PILE

Approximately 2500 cubic yards of petroleum contaminated soils, removed from in and around a steam-cleaning pad area and underground fuel tanks, has been stockpiled on site at the Eliot Aggregate plant for a period of time. Aerobic breakdown of any residual petroleum hydrocarbons within the pile is believed to have taken place to acceptable levels since the excavation project. Final sampling of the stockpile is expected to begin upon approval of the following sampling methodology.

### Methodology

Measurements of the soil stockpile were taken during a visit to the site on August 15, 1996. Upon returning to the office, the computer drawing program Cadd 6.0 was used to create a scale, plan-view, drawing of the stockpile (Dimensions: 90' x 150' x 5'). Next, a scaled 10' x 10' grid pattern was superimposed on the drawing. The one hundred thirty-five resulting quadrats were then numbered along both the X and Y coordinates (1 - 9 along the X axis, 1 - 15 along the Y axis). This established the basis for quadrat sampling of the pile.

Based on the size of the pile and in order to establish a reasonable sampling plan, we suggest that 52 randomly chosen soil samples be allowed to represent the entire pile. To further simplify the process these 52 samples will be further grouped into 13 composite samples (52 divided by 4), each composite sample will represent geographically proximal sample locations. The final 13 composite samples will be sent in for laboratory analysis, the results of which will be submitted in the required closure report.

To set up this sampling regime the computer program Excel 5.0 was used to generate a four-column random numbers table (Table 1). Each sample number (1 - 52) is followed by a three-number set, corresponding to the X, Y, and Z (depth) coordinates for each sample. Once each completely random number set was generated they were then plotted on the drawing, resulting in a pattern believed to give a reasonable accurate cross-section of the pile (Figure 1).

### A. Sampling Protocol

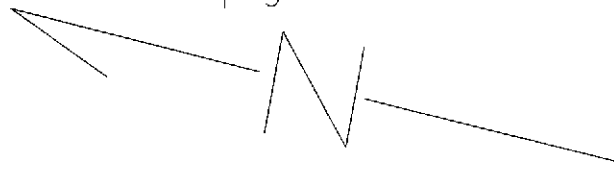
Soil samples will be obtained by a combination of powered and hand means. Unless a surface sample is called for in a specific quadrat, a backhoe will be used to excavate to the level of the pre-determined soil sample. The sample will then be collected directly from the sidewall of the excavation by driving a laboratory pre-cleaned brass tube (2" diameter x 6" length) into the soil with the aid of a slide hammer connected to a core sampler. In accordance to specifications, the brass tubes will be completely filled, leaving no space for volatilization of organic compounds. The ends of the tubes will be sealed with teflon tape, then capped with plastic covers. Each sample will be promptly and properly labeled, then placed in a chilled ice chest. Once all of the fifty-two samples are collected they will be banded into the aforementioned thirteen groups of four geographically-proximal composite samples.

The samples will be sent to an independent laboratory for analysis. Their instructions will first be to composite the four samples in each of the thirteen banded samples, then run the necessary tests on each composite. We believe that having the laboratory do the sample blending eliminates any bias and insures that a minimum of volatilization will occur to each sample.

TABLE 1  
Random Number Table

Sample #	Y Coord.	X Coord.	Z Coord.
	1 thru 15	1 thru 9	1 to 5 feet
1	1	4	0
2	1	4	2
3	1	4	3
4	1	5	2
5	1	6	2
6	2	1	2
7	2	6	5
8	2	8	3
9	3	3	3
10	3	4	3
11	3	9	3
12	4	1	1
13	5	3	3
14	5	8	1
15	6	1	3
16	6	1	4
17	6	4	0
18	6	9	1
19	7	1	3
20	7	1	4
21	7	2	2
22	7	2	3
23	7	5	2
24	7	5	3
25	7	7	2
26	7	8	3
27	8	5	1
28	8	5	4
29	9	1	3
30	10	1	1
31	10	2	2
32	10	2	4
33	11	2	4
34	11	6	3
35	11	9	3
36	12	1	0
37	12	1	2
38	12	2	0
39	12	5	4
40	12	7	1
41	13	1	4
42	13	3	4
43	13	5	1
44	13	5	4
45	13	8	2
46	14	1	5
47	14	2	3
48	14	3	5
49	15	2	4
50	15	8	2
51	15	9	3
52	15	9	4

FIGURE 1  
Sampling Locations



Y Coordinate

15		4						2	3, 4
14	5	3	5						
13	4		4		1, 4			2	
12	0, 2	0			4		1		
11		4				3			3
10	1	2, 4							
9	3								
8					1, 4				
7	3, 4	2, 3			2, 3		2	3	
6	3, 4			0					1
5			3					1	
4	1								
3			3	3					3
2	2					5		3	
1				0, 2, 3	2	2			

1 2 3 4 5 6 7 8 9 X Coordinate