WA 0342
5-24-89
179

DAMES & MOORE A PROFESSIONAL LIMITED PARTNERSHIP
1220 S.W. MORRISON ST., SUITE 404, PORTLAND, OREGON 97205-2260 (503) 228-7688

May 24, 1989

Environmental Protection Agency
RCRA Compliance Section
1200 Sixth Avenue (HW-112)
Vancouver, Washington 98661

Attention: Mr. C. A. Shenk

Response to EPA Comments
Columbia Industrial Park Closure Plan
Vancouver, Washington

Dear Mr. Shenk,

This letter includes clarifications of the deficiencies in the Building No. 5 Closure Plan noted by the EPA in a letter dated April 10, 1989. The deficiencies will be numbered and addressed in order.

The EPA requested clarifications are as follows:

1. The maximum inventory of hazardous waste can not be determined from the available information. The available records of Cascade Temperings waste disposal practices and production process would not provide meaningful estimates of this volume.

2. A qualified waste transporter will be selected after closure plan acceptance and with consideration of availability and cost. The disposal facility will be determined based on the excavated soils designation. Non-dangerous wastes will be disposed locally at a minimum function design landfill such as the Circle C landfill. Dangerous wastes will be disposed of at a either CSSI-Arlington or ESI-Idaho.

3. Backfill procedures will be conducted to achieve the goals specified in section 1.5.7 of the Closure Plan. Imported clean fill will be placed and compacted to specifications required for use as a parking and truck loading area.

4. The area affected by excavation will be barricaded and surrounded by caution tape. The industrial parks 24 hour security service will be alerted to prevent entry to this area.

5. The topography of the affected area is essentially flat lying. Spot elevations are indicated on the attached utilities plan (Figure 1).

6. Equipment will be decontaminated in a bermed tarp covered area. The waste water will be decanted to a drum as needed and sampled prior to disposal. This will increase sample analysis and materials costs approximately $450.

USEPA RCRA
3059249

7. In response to EPA concerns, a sample was collected from a depth of two feet in grid area A-5 on May 2, 1989. A total lead concentration of 1.7 ppm was determined and demonstrates that the contaminated soil has been removed. Background levels for lead in these soils range from 32 to 135 ppm as discribed in Section 1.5.2.1 of the Closure Plan. The laboratory report is attached.

8-1. In consultation with the WDOE it was decided that monitoring wells would be placed at one upgradient and three downgradient locations. The first wells (CT-2 to CT-4) were located with the concurrence of DOE representative Joanne Chance and designed to monitor the fill material. The second set of wells (AGI-1 to AGI-4) were designed to monitor the sand aquifer. Plate 11 in the AGI report demonstrates that these wells satisfy the one up- and three downgradient criterion. Additionally, this flow direction is reported as dominant at the Frontier Hard Chrome site to the north. Further discussion of the adequacy of the network will be included with clarifications of deficiencies 8-2, 8-4, 8-5, and 8-6.

8-2. The lithologic information obtained during investigation of Frontier Hard Chrome (approximately 1500 feet north of Building 5) indicates that the silty gravel unit is laterally extensive north, northeast and west of Building 5. It can be assumed to extend to the east and south as well. At Frontier Hard Chrome, this unit is described as being of relatively low permeability while an overlying silt and clay unit is considered an aquitard. At Building 5, the conditions appear similar because the silty gravel does not perch water in the overlying fill. This unit can, therefore, be considered an aquitard only in a relative sense at this site.

8-3. A utility plan for the industrial park has been reviewed. A copy of the relevant section is attached (Figure 1). Water and gas lines are present on the east and west sides of the waste disposal area respectively but do not cross this area directly. Additionally, no evidence of abandoned utilities was noted during the investigations or excavations of affected soils.

8-4. Water level measurements taken in shallow wells CT-2 and CT-3 in February 1985, July 1986 and May 1989 (Table 1) all indicate that the fill was not saturated and, therefore, should not be considered the uppermost aquifer. These measurements represent wet and dry season water levels all of which are below the described base of the fill.

8.5. There is little potential for horizontal contamination migration along the fill/silty gravel contact in that the fill is not saturated.

Infiltration and migration of contaminants will be primarily along vertical pathways. Ground water is assumed to be the primary carrier of any contaminants. Additionally, the silt content of the material may retard migration of lead by absorption.

8-6. Water levels measured in the sand aquifer at the site on May 2nd 1989 indicate water levels approximately two and a half feet higher than the July, 1986 water levels and a westward gradient. A correlation between aquifer water levels and Columbia River stage is described at Frontier Hard Chrome for this aquifer. River stage is shown to have a dominant effect on aquifer water levels and gradients. However, the predominant slope of the potentiometric surface is reported to be to the south-southeast. The average river stage is highest during May and June which indicates that gradients measured during these months may not define average flow direction and, therefore, contaminant migration direction. The primary contaminant migration direction at the site is considered to be to the south.

8-7. The total thickness of the sand aquifer at the site is not known. The alluvial material present in the flood plain of the Columbia River generally contains interbeds, lenses, and mixtures of gravel, sand, silt and clay. This material character is described near the site at Frontier Hard Chrome. Vertical groundwater flow and, therefore, vertical contaminant dispersion within the saturated zone is limited by the layered nature of this material. Additionally, a vertical ground-water gradient which would act to drive water downward was not measured at Frontier Chrome. The ground-water samples to be obtained at the site are, therefore, considered representative of this aquifer.

We expect that this information addresses the concerns of the EPA for these deficiencies. If you have any questions please contact me directly.

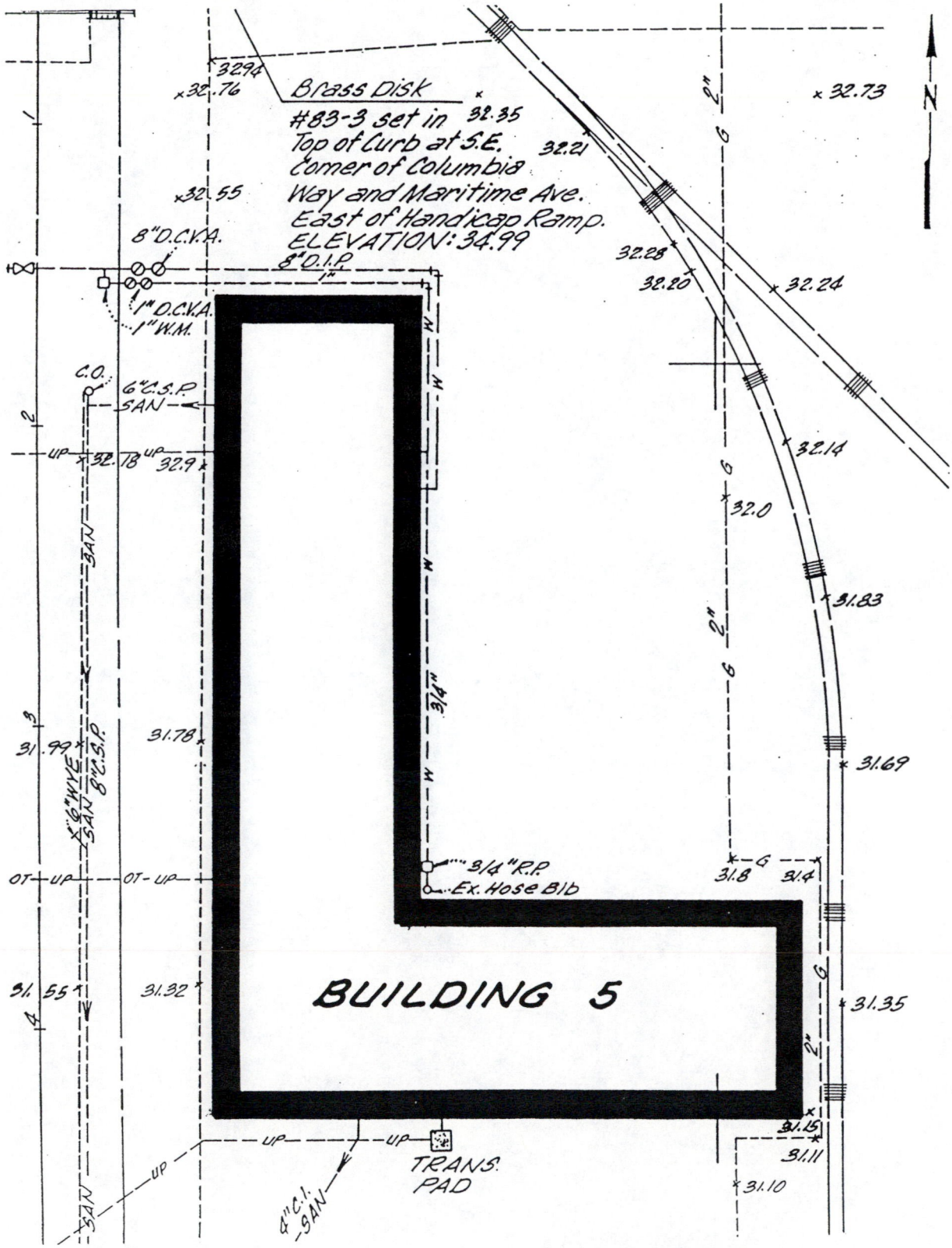
Yours very truly,

DAMES & MOORE

Kim L. Marcus,
Senior Geologist

WD44/Hill
DRD:cad
17809-001-005

cc: Jack Boller, EPA



UTILITY PLAN

COLUMBIA INDUSTRIAL PARK,
BUILDING 5
WASTE DISPOSAL AREA CLOSURE

DAMES & MOORE
MAY 1989

JOB NO: 17809-002-001

FIGURE 1

HILLMAN PROPERTIES
VANCOUVER, WASHINGTON
JOB NO: 17809-001

TABLE 1
WATER LEVELS
May 2, 1989

WELL TESTED	TIME	DEPTH to WATER (in feet)	WATER LEVEL ELEVATION*
CT-2	12:38	11.58	14.56
CT-3	12:43	8.42	17.46
CT-4	13:03	21.89	5.33
AGI-1	13:34	22.97	2.36
AGI-2	12:34	23.05	2.33
AGI-3	12:46	22.53	2.27
AGI-4	--	--	--

NOTE: * = Relative to AGI Arbitrary Site Datum

Analytical Technologies, Inc. Corporate Offices: 5550 Morehouse Drive San Diego, CA 92121 (619) 458-9141

ATI I.D. 905057

May 10, 1989

Dames & Moore
1220 S.W. Morrison Street, Suite 404
Portland, Oregon 97205

Project No: 17809-001

Project Name: Hillman Prop.

Attention: Dennis Dykes

On May 4, 1989, Analytical Technologies, Inc. received one soil sample for analyses. The sample was analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The symbol for "less than" indicates a value below the reportable detection limit. Please see the attached sheet for the sample cross reference.

The results of these analyses and the quality control data are enclosed.

For Marcilen Lindsey
Senior Project Manager

Richard M. Amano
Laboratory Manager

ML:lap

AnalyticalTechnologies,Inc.

ATI I.D. 905057

ANALYTICAL SCHEDULE

CLIENT: DAMES & MOORE
PROJECT NAME: HILLMAN PROP.

PROJECT NO.: 17809-001

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
PERCENT MOISTURE	GRAVIMETRIC	METHOD 7-2.2 in Methods of Soil Analysis, American Society of Agronomy
LEAD	ICAP	EPA 6010

NOTE: All soil sample results were calculated in dry weight.

Analytical Technologies, Inc.

CLIENT : DAMES & MOORE-PORTLAND
PROJECT # : 17809-001
PROJECT NAME : HILLMAN PROP.

DATE RECEIVED : 05/04/89
REPORT DATE : 05/10/89

ATI I.D. : 905057

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	CP-A5	SOIL	05/02/89

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	1

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

AnalyticalTechnologies,Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 905057

CLIENT : DAMES & MOORE-PORTLAND
PROJECT # : 17809-001
PROJECT NAME : HILLMAN PROP.

DATE RECEIVED : 05/04/89
REPORT DATE : 05/10/89

PARAMETER	UNITS	01
% MOISTURE	%	5.7

Analytical Technologies, Inc. GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : DAMES & MOORE-PORTLAND
PROJECT # : 17809-001
PROJECT NAME : HILLMAN PROP. ATI I.D. : 905057

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
MOISTURE (%)		90508201	17.2	17.2	0	N/A	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

AnalyticalTechnologies,Inc. METALS RESULTS

ATI I.D. : 905057

CLIENT : DAMES & MOORE-PORTLAND
PROJECT # : 17809-001
PROJECT NAME : HILLMAN PROP.

DATE RECEIVED : 05/04/89
REPORT DATE : 05/10/89

PARAMETER	UNITS	01
LEAD	MG/KG	1.7

AnalyticalTechnologies,Inc.

METALS - QUALITY CONTROL

CLIENT : DAMES & MOORE-PORTLAND
PROJECT # : 17809-001
PROJECT NAME : HILLMAN PROP.

ATI I.D. : 905057

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
LEAD	MG/KG	90508404	4.9	5.4	10	50.6	53.1	86

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

558-2389 Fax 614

DAMES & MOORE

1220 S.W. Morrison Street, Suite 404 • Portland, Oregon 97205 • (503) 228-7688

Chain of Custody

Date 5/2/89 Page 1 of 1

Project Number: 17809-001
Project Manager: Dennis Dykes
Laboratory: ATI
Turn around time:

Sampler's Initials: JAJ
Sampler's Signature: Jean A Jenkins

Analysis Request

Sample ID	Date	Time	Matrix	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8020	Base/Neutral/Acids 625/8270 (GC/MS)	BTX 602/8015	Polycyclic Aromatic Hydrocarbons 610/8310	Pesticides/PCBs 608/8080	Metals - Total Lead			Priority Pollutant Metals (13)	EP TOX Metals (8)			Comments/ Instructions	Number of Containers
CP-A5	5/2/89	13:45	Sand								X								

Special Instructions/Comments:

Relinquished by:
(Sig) Jean A Jenkins
(Printed) Jean A. Jenkins
(Company) Dames & Moore
(Time) 2:05 (Date) 5/3/89

Received by (lab):
(Sig)
(Printed)
(Company)
(Time) (Date)

Sample Receipt

Total no. of containers:
Chain of custody seals:
Rec'd good condition/cold:
Conforms to record:

Lab number: