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Clayton GROUP SERVICES

October 18, 2001

Ms. Donna Byers
Property Manager
Dexter Horton Building
711 Third Avenue, Suite 312
Seattle, Washington 98104

Clayton Project No.75-02024.00

Dear Ms. Byers:

Clayton Group Services, Inc. (Clayton) is pleased to present this report to Pinnacle Realty Management Company. On October 5, 2001 Clayton conducted total dust monitoring in the Dexter Horton Building located at 711 3rd Avenue in Seattle, Washington. The purpose of the survey was to respond to tenants concerns regarding dust levels and indoor air quality.

The enclosed report describes the survey results in detail.

If you have any questions concerning this evaluation, please contact me at (206) 763-7364.

Sincerely,

for Barb Faville, CIH
Senior Project Manager
Occupational Health and Safety

Total Dust Monitoring
in the
Dexter Horton Building
For
Pinnacle Realty
Management Company
Seattle, Washington

October 18, 2001

Clayton Project No.75-02024.00

CONTENTS

APPENDIX

EXECUTIVE SUMMARY

On October 5, 2001, Clayton Group Services, Inc. (Clayton) conducted total dust monitoring in the Dexter Horton Building in Seattle Washington. Construction from remodeling activities and unrepaired earthquake damage continue to introduce particulate into the building's air. The highest concentrations of total particulate were found in the stairwells and a bathroom. Dust levels in the office areas continue to be very low. All readings were below the recommended limit of 0.075 mg/m3 set by ASHRAE.

1.0 INTRODUCTION

Ms. Donna Byers from Pinnacle Realty Management Company authorized Clayton Group Services, Inc. (Clayton) to conduct total dust monitoring in the Dexter Horton Building in Seattle, Washington.

Sonya Manejkowski, Industrial Hygienist from Clayton, conducted the survey on October 5, 2001. Clayton conducted total particulate (dust) sampling to determine airborne levels of dust. Due to remodeling activities in the building and large areas of plaster that had fallen off the walls during the earthquake on February 28, 2001, Pinnacle had received concerns about the air quality from the building occupants.

This report presents the results and recommendations based on the observations and findings obtained during the survey. The report dated June 7, 2001 should be consulted for a more detailed discussion of construction activities and earthquake related damage.

2.0 OBSERVATIONS

Construction Activities

At the time of the survey on October 5, a limited amount of "construction" activity was observed but these activities were associated with building remodel on the seventh floor.

Earthquake Damage

Repair work is still to be completed on the walls and exposed and broken plaster was observed in all parts of the building. Some temporary repair work was observed since the last survey.

3.0 METHODS AND PROCEDURES

A TSI DustTrak was used to determine dust concentrations. The DustTrak is designed for indoor air quality investigations and is able to measure dust concentrations to 0.001 mg/m3. On October 5, 2001, the DustTrak was used to monitor the air in 118 areas of the building. The DustTrak instrument provides an instantaneous reading so no further analysis of the sample is required. This method allows all areas of the building to be monitored in a single day.

4.0 RESULTS AND DISCUSSION

The results of the DustTrak monitoring were very low. All readings were below the recommended guideline of 0.075 mg/m3. The higher readings in the stairwells are consistent with previous sampling surveys, although many were higher compared to the late August survey. The results of the DustTrak sampling are listed in Table 1 in the Appendix.

The DustTrak results in the office areas ranged from a concentration of 0.004 to 0.047 mg/m3. In the previous survey, the higher levels were monitored in office areas adjacent to the copy/duplicating room in Suite 400. In the October 5 survey, the highest dust level found was in a sixth floor office, in the C wing at a printer. Overall, the concentrations are quite low and are consistent with levels found in most office areas.

Particulate concentrations ranged from 0.008 to 0.056 mg/m3 in the lobbies and 0.017 to 0.060 mg/m3 in stairwells. These levels are not unexpected for high traffic (lobbies) and limited ventilation (stairwells) areas. At the request of a building occupant, the women's' bathroom on the west end of the eight floor was surveyed. It yielded a reading of 0.060 mg/m3, which matched the highest reading in a stairwell, the busy third floor east stairwell.

On the basement, second and third floors, *all* readings were higher than on the last survey. On the 4th and 14th floors, the majority of readings were higher than previously. The 6th and 15th floors were nearly the same. Lower readings, in general, were obtained on the 5th, 7th through 13th floors on October 5 than on August 28. The 9th floors had the lowest dust readings followed by the 6th floor, both a good deal cleaner than the others.

Two sets of standards are used to interpret the total particulate or dust results. The Washington State Labor and Industries (WISHA) standard has established a permissible exposure limit of 10 mg/m3 of total particulate in air. This standard is usually intended for industrial work places and does not apply well to non-industrial environments.

The second set of guidelines was developed by the American Society of Heating, Refrigerating, and Air-conditioning Engineers (ASHRAE) and is intended for use with indoor air quality evaluations. The guidelines are not legal limits, just recommendations that have been developed to assist in determining if indoor air is likely to produce complaints. ASHRAE has established a guideline of 0.075 mg/m3 for total particulate in indoor air.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Dust levels were well below WISHA Permissible Exposure Limits (PELs) and all below ASHRAE's recommended limit of 0.075 milligrams per cubic meter (mg/m^3) for indoor air. The results of the samples collected in the construction area, floor 7, were below the PEL of 10 mg/m3.

Clayton recommends the following actions to assist Dexter Horton building management and Turner Construction in providing acceptable air quality in the building and preventing overexposure to employees:

- If the dust in the restrooms, lobbies and stairwells continue to generate complaints or concerns, a thorough vacuuming or wet cleaning of these areas may be required. No dry sweeping or dry wiping should be done during cleaning.
- Include a sample of the unoccupied bathrooms on the next survey.

It has been a pleasure serving Pinnacle Realty Management Company on this project. Please call me at 206-763-7364 if you have any questions regarding this report. Future air sampling results will be communicated in a separate report.

Report prepared by:

Sonya Manejkowski
Industrial Hygienist / Senior Trainer

Report reviewed by:

for Barb Faville, CIH,
Senior Project Manager

APPENDIX

MONITORING RESULTS

Clayton

Table 1
Airborne Dust Monitoring – TSI DustTrac
Dexter Horton Building
October 5, 2001
Project #: 75-02024.00

Location	Concentration (mg/m^3)
Basement:	
Outside Basement Board Room	0.043
2nd Floor:	
Lobby, across from elevator #1	0.039
Lobby, across from elevator #6	0.046
West stairwell, mezzanine landing	0.033
3rd Floor:	
West stairwell, landing	0.036
Lobby, outside suite 312	0.051
Lobby, across from elevator #3	0.048
Lobby, outside suite 326	0.056
In Suite 326 (door open)	0.041
In Suite 331 (door to lobby open)	0.028
East stairwell, landing	0.060
4th Floor:	
East stairwell, landing	0.081
Lobby, east end by restrooms	0.014
Lobby, across from elevator #4, ceiling exposed by #5	0.033
Suite 400, copy/duplicating room lobby	0.025
Suite 400, by refrigerator & microwave	0.015
Suite 400, back hallway by T. Johnson's office	0.022
Suite 400, by windows and M. Lafond's office	0.011
Suite 400, by paper cutter and clock	0.021
Suite 400, by I. Edelstein's desk, photography area	0.012
Suite 400, in copy center	0.022
Lobby, outside suite 450	0.015
West stairwell, landing	0.017
5th Floor:	
West stairwell, landing	0.030
Lobby, west end	0.016
Lobby, across from elevator # 6	0.013
Lobby, east end	0.010
East stairwell, landing	0.038
6th Floor:	
East stairwell, landing	0.046
Lobby, east end	0.015
Suite 610, A wing lobby	0.007
A wing, by 1st aid kit	0.009
A wing, room 620	0.009

Clayton GROUP SERVICES

Table 1 - Continued

Location	Concentration (mg/m^3)
A wing, end by maps	0.011
A wing, by M. Brennan office	0.009
Between A and B wings, by window	0.010
Lobby, B wing, room 640	0.008
B wing, by color copier	0.007
B wing by wing end printer	0.010
C wing, by printer	0.047
C wing, end of hall by printer	0.009
Between C and D wings, by windows	0.007
Suite 660, reception area	0.008
Suite 660, by conference room 6D	0.006
Suite 660, D wing, end of hall by printer	0.005
Suite 660, D wing, by microfiche	0.012
Suite 660, outside A. Mezias' office	0.047
Suite 660, outside C. Albarracin's office and coat rack	0.009
Lobby, across from elevator #3	0.011
Lobby, west end, outside Suite 610	0.024
Restroom, west end	0.035
West stairwell, landing	0.029
7th Floor:	
West stairwell, landing	0.040
Lobby, west end	0.026
Lobby, across from elevator #3	0.030
Lobby, east end by restrooms	0.028
East stairwell, landing	0.058
8th Floor:	
East stairwell, landing	0.049
Lobby, east end	0.008
Court Room lobby	Locked
Lobby, across from elevator #4	0.009
Bathroom, west end	0.060
Lobby, west end	0.014
West stairwell, landing	0.018
9th Floor:	
West stairwell, landing	0.029
West end of hall by Suite 900 – Conference Room	0.011
Lobby, across from elevator #4	0.013
Reception area	0.012
B-wing, by B. Booker's cube	0.008
B-wing, by L. Santos's cube	0.005
Between A- and B-wing, by windows	0.006
A-wing, by K. Evans's cube	0.006
A-wing, end of wing by printer	0.007
A-wing, by A. Claxton's cube and fire extinguisher	0.007

Table 1 - Continued

Location	Concentration (mg/m^3)
West stairwell, landing	0.029
West end of hall by Suite 900 – Conference Room	0.011
Lobby, across from elevator #4	0.013
Reception area	0.012
B-wing, by B. Booker's cube	0.008
B-wing, by L. Santos's cube	0.005
Between A- and B-wing, by windows	0.006
A-wing, by K. Evans's cube	0.006
A-wing, end of wing by printer	0.007
A-wing, by A. Claxton's cube and fire extinguisher	0.007
Between B and C wings, by windows	0.007
C-wing, by clock and fire extinguisher	0.008
C-wing,end of wing, by printer	0.006
Between C and D wings, by windows	0.009
D-wing, by fire extinguisher	0.009
D-wing, end of wing by printer	0.004
D-wing, by exit door, printer, and recycle receptacles	0.005
Lobby, east end by trophy case and mail chute	0.016
East stairwell, landing	0.027
10th Floor:	
East stairwell, landing	0.020
Lobby, east end	0.020
Lobby across from elevator #6	0.031
HRIS reception, door propped open	0.021
Lobby, east end	0.026
East stairwell, landing	0.029
14th Floor:	
East stairwell, landing	0.023
Lobby, east end	0.031
Lobby, across from elevator #4	0.040
Seattle Law Department, reception area (door propped open)	0.035
Lobby, west end	0.034
West stairwell, landing	0.024
15th Floor:	
West stairwell, landing	0.026
Lobby, west end	0.040
Lobby, across from elevator #4	0.028
Lobby, east end	0.032
East stairwell, landing	0.026

American Society of Heating, Refrigerating, and Air-conditioning Engineers (ASHRAE) Standard 62-1999 and Clayton Group Services internal standard — 0.075