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RF/RMRS-97-129.UN

Asbestos Characterization Report

For The

886 Cluster

Rocky Mountain Remediation Services

Revision 0

December 1997

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ADMIN RECORD

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ASBESTOS CHARACTERIZATION REPORT FOR THE 886 CLUSTER

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INFORMATION ONL

ASBESTOS CHARACTERIZATION REPORT FOR THE 886 CLUSTER

1.0 INTRODUCTION

During the weeks of November 17-21, 24-28, and December 1-5, 1997, the 886 Cluster was inspected for the presence of asbestos containing building materials (ACBM). This includes Buildings 888, 886, 886A, 875, 828 and 881. The purpose of this inspection was to prepare for the demolition of this structure.

The asbestos inspection was conducted according to the guidelines set forth by the Asbestos Hazard Emergency Response Act (AHERA) and complies with the United States Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA) and State of Colorado regulations covering asbestos inspections.

The enclosed report contains the estimated quantities, physical assessment, location and descriptions of all materials either assumed or identified through sampling and analysis to be asbestos containing.

2.0 ASBESTOS SURVEY

2.1 INSPECTION PROCEDURES

Bulk samples were acquired to determine the presence of asbestos in building materials. Suspect materials were chosen based on historical significance or on the judgement of the accredited inspector. Each sample was assigned an individual number made up of the building number, the date the sample was acquired, the initials of the sampling technician, and a three digit number in sequence. Quality Control samples are designated in the Bulk Sample Data Table as (QC).

A total of 78 samples were acquired from suspected materials. These materials included surfacing materials, thermal systems insulation, and miscellaneous materials. All samples were acquired in a random manner representative of the suspected material.

All bulk samples were analyzed by Reservoirs Environmental Services, Inc. (RESI) of Denver, Colorado. RESI is accredited through the National Institute of Standards and Technology (NIST) and participates in the NIST National Voluntary Laboratory Accreditation Program (NVLAP) as required by the EPA. Bulk samples were analyzed by Polarized Light Microscopy (PLM) in compliance with guidelines established by the EPA 40 CFR 763, Subpart F, Appendix A. Asbestos concentrations were visually estimated and reported in percent by layer of each sample.

2.2 SUMMARY OF ACBM DISCOVERED DURING INSPECTION

During the inspection process of this facility, historical records were accessed and evaluated, along with physical inspection of the cluster. The historical records included original specifications and blueprints, asbestos and lead in paint bulk samples, and interviews with facility occupants including the Facility Manager, Larry Fischer.

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2.2.1 Building 886

Building 886 is the main structure of the cluster. It has three construction dates, starting in 1964. The inspection process discovered asbestos containing Thermal Systems Insulation on piping and tanks associated with the domestic water, chiller system, steam system in the interior and exterior of the building, and on a small heating, vacuum and air-conditioning (HVAC) system located outside of 886 on the west side. This TSI is generally in good condition and appears to have regular maintenance.

Asbestos containing surfacing materials discovered during the inspection were limited to a light skim coat on the interior cinderblock associated with the oldest section of the structure. This material is covered with a minimum of one coat of paint and is in good condition. Due to the thinness of the application and the relatively low percentage of asbestos (trace to 5%), Point Counting analysis was utilized to more accurately evaluate asbestos content with results indicating levels consistently above 1%. This material must remain as part of the asbestos waste stream even though a composite of this skim coat and the cinderblock would reduce the asbestos percentage to far less than 1%.

Miscellaneous asbestos containing materials discovered during inspection included nine-inch and twelve-inch floor tiles dispersed throughout the "cold side" of the facility, including under the sheet vinyl in the hallways. The adhesive associated with the floor tile tested negative for asbestos except in Room 110, the janitor's closet. The tiles are in generally good condition and appear to receive regular maintenance.

The predominate pattern of ceiling tiles (2' x 4' white with wide latitudinal grooves, pits and pin holes) tested positive for asbestos. Due to the modular nature of a suspended ceiling, the remaining patterns must be assumed to be contaminated with asbestos. The suspended ceiling system was in good condition at the time of inspection.

A filler between the HVAC ducts and wall penetrations is 98% asbestos. This filler was not observed in all locations, but is predominate throughout the facility. At the time of inspection, the filler was painted and in good condition where observable.

A previous inspector acquired a sample of the electrical wiring in Room 114 which indicated asbestos in the insulation. Until the building circuits are de-energized and a comprehensive survey can be completed, it must be assumed that all original wiring insulation for the structure, and for the other original structures in the cluster, is asbestos containing.

Building 886 has a built-up roof system that was specified as containing asbestos in the felt and tar. As such, the roof is assumed to be asbestos containing without the need of sampling. Tar impregnated roofing felts may be disposed of with normal demolition debris under most circumstances.

2.2.2 Building 828

Building 828 exterior walls are assumed to be asbestos containing corrugated cementitious panels based on historical data from other locations on the site and on the expert judgement of the Certified Asbestos Inspector. The piping associated with the underground storage tanks is uninsulated.

2.2.3 Building T886A

Building 886A is a modular trailer (S.N. 3404) constructed by Elder in 1984. Alan Koenig from G.E. Capital, the parent company of Elder, verified that this particular type and age of structure was not constructed with any materials that contained either lead or asbestos.

2.2.4 Building 888

Building 888 is a guard post constructed in the mid 1980's. As such, building materials have a low possibility of containing asbestos. Based on visual inspection, all materials were eliminated as suspect asbestos containing materials except the roofing and the drywall systems. Samples were acquired of the drywall system which indicate no detectable asbestos present. The built-up roofing can be assumed to be asbestos containing tar impregnated roofing felt, which can be disposed of with the regular construction debris in most cases.

2.2.5 Building 875

Building 875 is the Plenum Facility for Building 886 and includes the service tunnel to 886. Since this structure is of the same construction date as Building 886, suspect asbestos containing materials are shared. As such, all pipe insulation must be considered to be asbestos containing unless it can be eliminated by physical touch as either a foam or fiberglass product. At the time of inspection, the pipe insulation was a mixture of asbestos containing, foam and fiberglass insulation. The asbestos insulation was predominately confined to the fittings, reductions, hangers, tees and elbows, while the straight runs were predominately foam and fiberglass. The asbestos containing insulation associated with this structure is in generally good condition and appears to have regular maintenance.

The roof of Building 875 is similar in construction as that of Building 886. As such, the original specifications called for the use of tar and felt containing asbestos. Based on this information, the roofing materials are assumed to be asbestos containing. These materials may be treated as regular demolition debris in most cases.

2.2.6 Building 880

At the time of inspection, no suspect asbestos containing building materials were discovered in Building 880.

2.2.7 Building 888A

Building 888A is the electrical substation for the facility. Due to the inherent safety concerns with sampling live electrical equipment, no samples were acquired. Suspect asbestos containing materials include wiring insulation, arc chutes, arc protection, insulators, and conduit trays. Once the substation is de-energized, samples can be safely acquired on these materials. In the interim, prudence would dictate assuming these materials do contain asbestos.

2.3 DESCRIPTION AND HAZARD ASSESSMENT OF ACM

2.3.1 Building 886

Thermal Systems Insulation

Approximately 390 Linear Feet Of 4" To 6" Diameter Pipe Insulation And 122 Assorted Mudded Fittings Associated With The Steam And Chiller Systems: This insulation is located primarily in the overheads of the north-south 126 Hall and Rooms 108, 101 and 111. At the time of inspection, the insulation was in good condition, with minor deterioration in small spots in Room 111. The EPA/AHERA hazard assessment category for the pipe insulation and related fittings is "Friable Thermal Systems Insulation in Good Condition." The appropriate response action for this material is to continue to periodically observe and to remove prior to demolition.

Approximately 550 Linear Feet Of Less Than 4" Diameter Pipe Insulation And 164 Assorted Mudded Fittings Associated With The Domestic Hot, Steam And Chiller Systems, Including Hvac Fan Coil Runouts: These systems are primarily located in the overheads of the 126 Hall, the rooms on the east side of the building, Rooms 110, 113, 106, 107, 111, 108 and 101. At the time of inspection, the insulation and fittings were in good condition and periodically maintained. The EPA/AHERA hazard assessment category for the insulation and associated fittings is "Friable Thermal Systems Insulation in Good Condition." The appropriate response action for this material is to continue to periodically observe and to remove prior to demolition.

Approximately 750 Linear Feet Of Less Than 4" Diameter Metal Jacketed Pipe Insulation And 164 Assorted Mudded Fittings Associated With The Steam And Chiller Systems: These systems are primarily located on the exterior west side and roof of the structure. At the time of inspection, the insulation and fittings were in good condition and periodically maintained. The EPA/AHERA hazard assessment category for the insulation and associated fittings is "Thermal Systems Insulation in Good Condition." The appropriate response action for this material is to continue to periodically observe and to remove prior to demolition.

Approximately 200 Square Feet Of HVAC Duct Insulation Associated With Room 140: This insulation is located on the exterior west side of the structure to the south of the south wall of Room 140. At the time of inspection, the insulation was weathered and losing it's integrity, but was still intact. The EPA/AHERA hazard assessment category for the insulation is "Damaged Friable Thermal Systems Insulation." The appropriate response action is to provide periodic surveillance and patch deterioration and subsequently remove the insulation prior to demolition.

Surfacing Materials

Approximately 8,900 Square Feet Of Friable Surfacing Material: This material is located on the cinderblock walls of the main section of the structure, bordered by Rooms 107, 116, 123 and 114. At the time of inspection, this material was in good condition and was sealed with a minimum of one layer of paint. The EPA/AHERA hazard assessment category for the surfacing material is "Friable Surfacing Material in Good Condition." The appropriate response action is to continue to maintain and inspect for damage, patch damage, and subsequently remove the material prior to demolition.

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Miscellaneous Materials

Approximately 6800 Square Feet Of Floor Tile Squares, Either 9" Or 12", Of Various Colors: These tiles are located throughout the building with the exception of Rooms 111, 140, 103, 108, 102 and 101. Many of the offices are carpeted. The 126 Hall has sheet vinyl over the floor tile squares. At the time of inspection, the floor tiles were in good condition, with the exception of some water damage and tile loosening in Room 110. The EPA/AHERA hazard assessment category for the tile squares is "Miscellaneous Non-Friable Material in Good Condition." The appropriate response action is to continue to maintain the exposed tiles, repair the damage in Room 110 and remove the tiles if demolition could potentially disturb the tiles and make them friable.

Approximately 6800 Square Feet Of Suspended Ceiling Tile Panels: The suspended ceiling tiles are located in the same rooms as the floor tiles, and are absent in the same rooms as those absent of floor tiles. Although several patterns exist in the structure and a few tested negative for asbestos, prudence dictates that due to the modular construction of this system, all ceiling tiles be considered to be asbestos contaminated. At the time of inspection, some water damage, mars, broken corners, and small holes were present in the tiles. The EPA/AHERA hazard assessment category for the tiles is "Damaged Friable Miscellaneous Material." The appropriate response action is to continue to observe the ceiling tiles and not disturb the tiles without proper training. The suspended ceiling tiles must be removed prior to demolition.

Approximately 100 Square Feet Of Hvac Duct/Wall Penetration Filler: This filler is located in the gap between the walls and duct where the duct penetrates the walls, and is predominately associated with the original building system and not with that added at a later date. At the time of inspection, the filler was in good condition. The EPA/AHERA hazard assessment category for the filler is "Miscellaneous Friable Material in Good Condition." The appropriate response action for the filler is to continue to observe conditions and to remove the filler prior to demolition.

Approximately 100 Square Feet Of Floor Tile Mastic: This black mastic is associated with the floor tiles in Room 110. At the time of inspection the mastic was in good condition, although the tiles were de-laminating at the south side of the room. The EPA/AHERA hazard assessment category for the mastic is "Miscellaneous Non-Friable Material in Good Condition." The appropriate response action is to continue to observe conditions. The mastic does not have to be removed prior to demolition if it remains non-friable during the demolition process.

Approximately 13,000 Square Feet Of Tar Impregnated Roofing Felt, Tar And Pea Gravel Built-Up Roofing: This roofing material is located on all levels of the structure. According to original specifications for the structure, the roofing felt and tar were required to be asbestos containing, hence the materials were assumed to be asbestos containing and no samples were acquired. At the time of inspection, the roof was in good condition. The EPA/AHERA hazard assessment category for the roofing materials is "Miscellaneous Non-Friable Material in Good Condition. The appropriate response action for the roofing is to continue to observe the conditions until such time as the building is demolished. This type of roofing does not have to be removed prior to demolition if it remains non-friable throughout the process.

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2.3.2 Building 875

Thermal Systems Insulation

Approximately 36 Square Feet Of Condensate Tank Insulation: This tank/insulation is located in Room 111 on the west wall near the west entry. At the time of inspection, the insulation was in good condition. The EPA/AHERA hazard assessment category for the insulation is "Friable Thermal Systems Insulation in Good Condition." The appropriate response action is to continue to observe conditions and to remove the insulation prior to demolition.

Approximately 300 Linear Feet Of Greater Than 4" Diameter Pipe Insulation And 104 Assorted Mudded Pipe Fittings Associated With The Chiller And Steam Systems: The majority of this insulation is located in the tunnel connected to Building 886. At the time of inspection, the insulation was in good condition. The EPA/AHERA hazard assessment category for the insulation is "Friable Thermal Systems Insulation in Good Condition." The appropriate response action is to continue to observe conditions and to remove the insulation prior to demolition.

Approximately 500 Linear Feet Of Less Than 4" Diameter Pipe Insulation And 140 Assorted Mudded Fittings Associated With The Steam And Chiller Systems: This insulation is primarily located along the interior perimeter of the building. At the time of inspection, the insulation was in good condition, with several patched areas evident. The EPA/AHERA hazard assessment category for the insulation is "Friable Thermal Systems Insulation in Good Condition." The appropriate response action is to continue to observe conditions and to remove the insulation prior to demolition.

Miscellaneous Materials

Approximately 4200 Square Feet Of Tar Impregnated Roofing Felt, Tar And Pea Gravel Built-Up Roofing: According to original specifications for the structure, the roofing felt and tar were required to be asbestos containing, hence the materials were assumed to be asbestos containing and no samples were acquired. At the time of inspection, the roof was in good condition. The EPA/AHERA hazard assessment category for the roofing materials is "Miscellaneous Non-Friable Material in Good Condition. The appropriate response action for the roofing is to continue to observe the conditions until such time as the building is demolished. This type of roofing does not have to be removed prior to demolition if it remains non-friable throughout the process.

2.3.3 Building 888A

Building 888A is the electrical substation for the facility. Due to the inherent safety concerns with sampling live electrical equipment, no samples were acquired. Suspect asbestos containing materials include wiring insulation, arc chutes, arc protection, insulators, and conduit trays. Once the substation is de-energized, samples can be safely acquired of these materials. In the interim, prudence would dictate assuming these materials do contain asbestos.

2.3.4 Building 886A

Building 886A is a modular trailer (S.N. 3404) constructed by Elder in 1984. Alan Koenig from G.E. Capital, the parent company of Elder, verified that this particular type and age of structure was not constructed with any materials that contained either lead or asbestos.

2.3.5 Building 880

At the time of inspection, no suspect asbestos containing building materials were discovered in Building 880.

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2.3.6 Building 828

Miscellaneous Materials

Approximately 600 Square Feet Of Corrugated Cementitious Siding And Roofing: This material, commonly known as "Transite", is assumed to be asbestos containing based on historical data, homogeneous materials sampled elsewhere on site and the judgement of the Certified Asbestos Inspector. At the time of inspection, the siding and roofing were in good condition, with minimal weathering, chipping, blisters and cracks. The EPA/AHERA hazard assessment category for the cementitious siding is "Miscellaneous Non-Friable Material in Good Condition." The appropriate response action for the siding and roofing is to continue to maintain observation and remove the materials prior to demolition.

2.3.7 Building 888

Building 888 is a guard post constructed in the mid 1980's. As such, building materials have a low possibility of containing asbestos. Based on visual inspection, all materials were eliminated as suspect asbestos containing materials except the roofing and the drywall systems. Samples were acquired of the drywall system which indicate no detectable asbestos present. The built-up roofing can be assumed to be asbestos containing tar impregnated roofing felt, which can be disposed of with the regular construction debris in most cases.

2.4 DESCRIPTION OF MATERIALS TESTING NEGATIVE FOR ASBESTOS

2.4.1 Building 886

Drywall, Tape, and Joint Compound

The drywall, tape and joint compound in the newer construction (Rooms 128-131 and the main north entry breezeway) areas were sampled and analyzed for asbestos. All sample results indicate there is no detectable asbestos present in the materials.

Wall Plaster

The wall plaster discovered throughout the older construction areas of the building was sampled and analyzed for asbestos. Analysis indicates no detectable levels of asbestos in this material.

Concrete

The concrete associated with Room 101 was rumored to be asbestos containing. Although not normally a suspect material, samples were acquired of the interior and exterior. Results indicate no asbestos above a trace in this material.

Cove Base and Adhesive

Several colors and sizes of cove base/adhesive were sampled for asbestos. Analytical results indicate no levels above trace in these materials.

Sheet Vinyl Flooring

The simulated mosaic sheet vinyl flooring located in the hallways and Room 115 was sampled for asbestos. Analytical results indicate no detectable levels of asbestos. However, the hallway does have asbestos containing floor tile under the sheeting.

Carpet Adhesive

The carpet adhesive was sampled for asbestos. Analytical results indicate no detectable levels of asbestos.

Floor Tile Mastic

The floor tile mastic consistently tested negative for detectable levels of asbestos during the sampling and analysis of the floor tiles throughout the building.

Exterior Texture

The exterior texture on both the cinderblock and concrete were sampled for asbestos. Analytical results indicate no detectable levels of asbestos.

2.4.2 Building 888

Drywall, Tape and Joint Compound

The drywall, tape and joint compound on the interior wall spaces of this building were sampled for asbestos. Analytical results indicate no detectable levels of asbestos.

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Attachment 1

Inspector Certifications

Statement of Certification

The asbestos building inspection evaluation performed on the **886 Cluster** was performed in accordance with applicable regulations, and employed only EPA/AHERA accredited personnel.

INSPECTOR: [redacted]

EPA ACCREDITATION: [redacted]

STATE OF COLORADO CERTIFICATION: [redacted]

I hereby attest and certify that I performed the asbestos building inspection evaluation on the **886 Cluster** at Rocky Flats Environmental Technology Site.

Signature: _____ Date: 12/18/1997

Attachment 2

Bulk Asbestos Sample Lab/Data Table

Bulk Sample Data Table

Sample Number	Sample Description and Location	Lab Result PLM (PC)
886-971119-MS-001	TSI mud (B) and canvass (A); from Room 111 condensate tank, 3' east of west wall, 2' south of west door, 2' from the floor.	A: ND B: 10%
886-971119-MS-002	TSI mud (B) and canvass (A); from Room 111 condensate tank, 2' east of west wall, 2' south of west door, 3' from the floor.	A: ND B: 8%
886-971119-MS-003	TSI mud (C,E) and canvass/foil (A,B,D); from Room 111 condensate tank, 2' east of west wall, 2' south of west door, 3' from the floor.	A: ND B: ND C: 85% D: ND E: 8%
886-971119-MS-004	Cinderblock mortar (B) and skim (A); from Room 111 south wall, 1' east of south door, 6' from the floor.	A: TR B: ND
886-971119-MS-005	TSI mud (B) and canvass (A); from Room 111 chiller return pipe elbow ,9' east of west wall, 2.5' north of the south wall, 6.5' from the floor.	A: ND B: 15%
886-971119-MS-006	TSI mud (B) and canvass (A); from Room 111 chiller return pipe valve, 15' east of west wall, 2.5' north of south wall, 6.5' from the floor.	A: ND B: 15%
886-971119-MS-007	TSI mud (B) and canvass (A); from Room 111 chiller supply pipe elbow, 2' west of east wall, 3.5' north of south wall, 3' from the floor.	A: ND B: 15%
886-971119-MS-008	TSI mud (B) and canvass (A); from Room 111 steam supply pipe, 13.5' east of west wall, 2' north of south wall, 4.5' from the floor.	A: ND B: 30%
886-971119-MS-009	TSI mud (B) and canvass (A); from Room 111 steam supply pipe tee, 13.5' east of west wall, 2' north of south wall, 4.5' from the floor.	A: ND B: 15%
886-971119-MS-010	TSI mud (B) and canvass (A); from Room 111 steam supply pipe, 14' east of west wall, 7' north of south wall, 6' from the floor.	A: ND B: 20%
886-971119-MS-011	TSI mud (B) and canvass (A); from Room 111 steam supply pipe, 3' east of west wall, 6' north of south wall, 5' from the floor.	A: ND B: 20%
886-971119-MS-012	Tan carpet mastic; from Room 106, 6.5' east of west wall, 5.5' north of south wall.	A: ND
886-971119-MS-013	White duct/wall penetration filler; from Room 106 south wall, 2.5' east of west wall, 9' from the floor.	A: 98% B: ND C: ND
886-971119-MS-014	Black 4" cove base and black glue; from Room 107 south wall, 5' west of east wall.	A: TR B: ND
886-971119-MS-015	White ceiling tile with longitudinal grooves, pits and pin holes; from Room 107, 13' west of east wall, 6' north of south wall.	A: ND

Sample Number	Sample Description and Location	Lab Result PLM (PC)
886-971119-MS-016	Brown 9" floor tile (B) and black mastic (A); from Room 107, 10' west of east wall, 6' north of south wall.	A: ND B: 5%
886-971119-MS-017	Painted (A) concrete (B,C); from Room 107, south wall, 3' west of east wall, 5' from the floor.	A: ND B: ND C: ND
886-971119-MS-018	Cinderblock mortar (B) and skim (A); from Room 115 west wall, 2.5' south of north wall, 5' from the floor.	A: 2% (1%) B: ND
886-971119-MS-019	Simulated mosaic sheet vinyl flooring; from Room 115, 3' north of south wall, 5' west of east wall.	A: ND B: ND
886-971119-MS-020	Grey cove base (C) and tan resin (A,B); from Room 115 east wall, 3' south of north wall.	A: ND B: ND C: ND
886-971119-MS-021	White ceiling tile with light latitudinal grooves and pin holes: from Room 115, 4' south of north wall, 2' west of east wall.	A: 4% (2%)
886-971119-MS-022	White ceiling tile with light longitudinal grooves and hashes; from Room 115, 5' north of south wall, 4.5' west of east wall.	A: ND B: ND
886-971119-MS-023 (QC)	White ceiling tile with light longitudinal grooves and hashes; from Room 115, 5' north of south wall, 4.5' west of east wall.	A: ND B: ND
886-971119-MS-024	TSI mud (B) and canvass (A); from Room 110 domestic hot water pipe elbow; NW corner 1.5' from the floor.	A: ND B: 21%
886-971119-MS-025	Tan/white flecks 9" floor tile (B) and black mastic (A); from Room 110, 1' north of south wall, 3' east of west wall.	A: 5% B: 4%
886-971119-MS-026	Beige with brown streaks 9" floor tile (B) and black mastic (A); from Room 113, 4.5' west of east wall, 0.5' north of south wall.	A: ND B: 4%
886-971119-MS-027	White/grey floor tile (B) and black mastic (A) under carpet; from Room 116, 8' west of east wall, 4' north of south wall.	A: ND B: 3%
886-971119-MS-028	Painted wall plaster; from Room 116 west wall, 2' north of south wall, 4.5' from the floor.	A: ND B: ND C: ND D: ND
886-971119-MS-029 (QC)	Painted wall plaster; from Room 116 west wall, 2' north of south wall, 4.5' from the floor.	A: ND B: ND C: ND D: ND
886-971119-MS-030	Grey and tan checkerboard pattern 9" floor tile (C,D) with black/tan mastic (A,B); from Room 119, 0. 5' west of east wall, 0.5' south of north wall.	A: ND B: ND C: 3% D: 5%

Sample Number	Sample Description and Location	Lab Result PLM (PC)
886-971121-MS-031	Cinderblock mortar (B) and skim (A); from Room 119 west wall, 4.5' south of north wall, 5' from the floor.	A: ND B: ND
886-971121-MS-032	Painted (A) wall plaster (B,C) and foam (D); from Room 119 north wall, 1.5' east of west wall, 4' from the floor.	A: ND B: ND C: ND D: ND
886-971121-MS-033	Red and tan checkerboard 9" floor tile (B) with black/tan mastic (A) under carpet; from Room 123, 6.5' east of west wall, 0.5' north of south wall.	A: ND B: ND C: 4% D: 4%
886-971121-MS-034	White ceiling tile with wide, shallow latitudinal grooves and pin holes; from Room 123, 6' west of east wall, 2' south of the north wall.	A: 8%
886-971121-MS-035	White ceiling tile with latitudinal moustache and pin holes; from Room 123, 2' west of east wall, 2' south of north wall.	A: TR (ND)
886-971121-MS-036	White ceiling tile with latitudinal worm holes and dense pin holes; from Room 129, 2' north of south wall, 4' west of east wall.	A: ND
886-971121-MS-037	Tan/brown floor tile (C) with black/tan mastic (A,B) under carpet; from Room 129, 0.5' west of east wall, 0.5' north of south wall.	A: ND B: ND C: 8%
886-971121-MS-038	Tan/brown floor tile (C) with black/tan mastic (A,B) under carpet; from Room 131, 0.5' west of east wall, 0.5' north of south wall.	A: ND B: ND C: 8%
886-971121-MS-039	Cinderblock mortar (B) and skim (A); from Room 131 west wall, 3' north of south wall, 3' from the floor.	A: ND B: ND
886-971121-MS-040	Drywall (D) tape (C) and joint compound (A,B); from Room 131 northeast corner, 3.5' from the floor.	A: ND B: ND C: ND D: ND
886-971121-MS-041	Drywall (C) tape (B) and joint compound (A); from main entry north wall, 3' east of the west wall, 3' from the floor.	A: ND B: ND C: ND
886-971121-MS-042	Drywall (D) tape (C) and joint compound (A,B); from main entry north wall, 1' east of west wall, 8' from the floor.	A: ND B: ND C: ND D: ND
886-971121-MS-043	Drywall (D) tape (C) and joint compound (A,B); from main entry north wall, 1' west of east wall, 8' from the floor.	A: ND B: ND C: ND D: ND

Sample Number	Sample Description and Location	Lab Result PLM (PC)
886-971121-MS-044	Drywall (D) tape (C) and joint compound (A,B); from Room 130 east wall, 5' north of south wall, 5' from the floor.	A: ND B: ND C: ND D: ND
886-971121-MS-045	Brown floor tile (B) and black/tan mastic (A,B) under carpet; from Room 130, 0.5' east of west wall, 0.5' south of north wall.	A: ND B: 9%
886-971121-MS-046	Drywall (D) tape (C) and joint compound (A,B); from Room 128 southeast corner, 4' from the floor.	A: ND B: ND C: TR (0.5%) D: ND
886-971121-MS-047	Wall plaster; from Room 125 east wall, 3' south of north wall, 5' from floor.	A: ND B: ND C: ND D: ND
886-971121-MS-048	Cinderblock mortar (C) and skim (A,B) ; from Room 127, west wall, 5' north of south wall, 5' from floor.	A: 5% (2.25%) B: ND C: ND
886-971121-MS-049	Light brown 4" cove base; from Room 118 north wall, 6.5' east of west wall.	A: TR B: ND
886-971121-MS-050	Wall plaster; from Room 120 east wall, 4.5' south of north wall, 6' from the floor.	A: ND B: ND C: ND
886-971121-MS-051	Dark brown 4" cove base and tan glue; from Room 117 south wall, 4.5' east of west wall.	A: TR B: ND
886-971121-MS-052	White ceiling tile with wide latitudinal grooves and pin holes; from Room 114, 10' west of east wall, 6.5' north of south wall.	A: 10%
886-971121-MS-053	Cinderblock mortar (C) and skim (A,B); from Room 114 south wall, 6' west of east wall, 6' from the floor.	A: 3% (1.75%) B: ND C: ND
886-971121-MS-054 (QC)	Cinderblock mortar (C) and skim (A,B); from Room 114 south wall, 6' west of east wall, 6' from the floor.	A: 3% (1.75%) B: ND C: ND
886-971121-MS-055	Grey/black 9" floor tile (B) with black mastic (A); from Room 114, 10' west of east wall, 9' north of south wall.	A: ND B: 3%
886-971121-MS-056	Wall plaster; from Room 114 east wall, 8' south of north wall, 5' from the floor.	A: ND B: ND C: ND D: ND

Sample Number	Sample Description and Location	Lab Result PLM (PC)
886-971121-MS-057	Light brown and beige checkerboard floor tiles (C,D) with tan/black mastic (A,B); from Room 117, 6' west of east wall, at south doorway.	A: ND B: ND C: 5% D: 5%
886-971121-MS-058	Grey and blue checkerboard floor tiles (B,C) and tan/black mastic (A); from Room 112, 4' north of south wall, 1' west of east wall.	A: ND B: 5% C: 8%
886-971121-MS-059	Wall plaster; from Room 112 east wall, 14' south of north wall, 5' from floor.	A: ND B: ND C: ND D: ND
886-971121-MS-060	Simulated mosaic sheet vinyl flooring (C,D) over white tile (B) and black mastic (A); from 126 hall, 0.5' east of west wall, between Rooms 110 & 113.	A: ND B: 5% C: ND D: ND
886-971121-MS-061	Cinderblock mortar (B) and skim (A); from 126 Hall, south wall, 3.5' east of 116 entry, 5' from the floor.	A: TR (TR) B: ND
886-971121-MS-062	Cinderblock mortar (C) and skim (A,B); from 126 Hall east wall, 2' north of 127 entry, 5' from floor.	A: 4% (1.25%) B: ND C: ND
886-971121-MS-063	Cinderblock mortar (C) and skim (A,B); from 126 Hall east wall, 1.5' south of 118 entry, 5' from floor.	A: ND B:5% (3%) C: ND
886-971124-MS-064	TSI canvass (A,B,C) on duct for control Room HVAC; west exterior, 20' south of Room 140 south wall, 4.5' west of east wall, 10' from ground.	A: ND B: ND C: ND D: 20%
886-971124-MS-065	TSI canvass (A,B) and mud (B) on duct for control Room HVAC; west exterior, 20' south of Room 140 south wall, 4.5' west of east wall, 10' from ground.	A: ND B: ND C: 20%
886-971124-MS-066	TSI canvass (A,B) and mud/tar (C) on duct for control Room HVAC; west exterior, 20' south of Room 140 south wall, 4.5' west of east wall, 10' from ground.	A: ND B: ND C: 45%
886-971124-MS-067	Texture on concrete; from 886 exterior, 12.5' north of SW corner, 1.5' from ground.	A: ND B: ND
886-971124-MS-068	Texture on concrete; from 886 exterior, 7' east of SW corner, 3.5' from ground.	A: ND B: ND
886-971124-MS-069	Texture on concrete; from 886 exterior, 19 ' north of SE corner, 5' from ground.	A: ND B: ND

Sample Number	Sample Description and Location	Lab Result PLM (PC)
886-971124-MS-070	Texture on cinderblock; from 886 exterior, 18' north of Room 140 wall, 5' from ground.	A: ND B: ND
886-971124-MS-071	Texture on cinderblock; from 886 exterior, 27' north of SW corner , 5' west of wall, 5' from ground.	A: ND B: ND
886-971124-MS-072	Texture on cinderblock; from 886 exterior, 1' north of 886 door 3, east wall, 4' from ground.	A: ND B: ND
886-971124-MS-073 (QC)	Texture on cinderblock; from 886 exterior, 1' north of 886 door 3, east wall, 4' from ground.	A: ND B: ND
886-971124-MS-074	Concrete core; from north wall of entry to Room 101, 5' from floor.	A: TR B: ND
886-971124-MS-075	Concrete core; from floor in entry hall to 101 at first turn.	A: ND
886-971124-MS-076	Drywall (D) tape (A,B) and joint compound (C); from Building 888; at SW corner main area, 5' from floor.	A: ND B: ND C: ND D: ND
886-971124-MS-077	Drywall (D) tape (A,B) and joint compound (C); from Building 888; at North edge of devising wall main area, 5' from floor.	A: ND B: ND C: ND D: ND
886-971124-MS-078	Drywall (D) tape (A,B) and joint compound (C); from Building 888; at SW corner restroom, 5' from floor.	A: ND B: ND C: ND D: ND

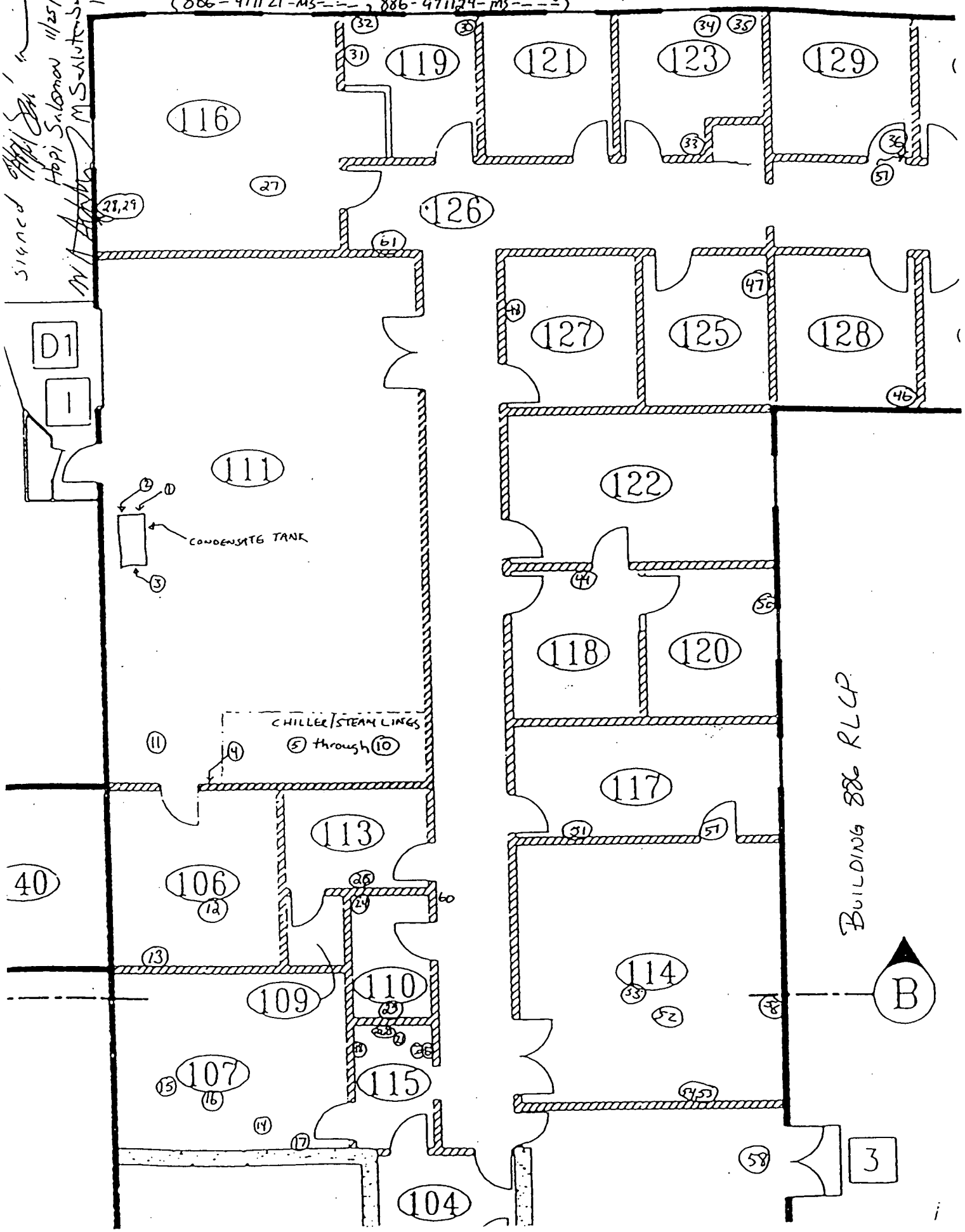
Note: ND means None Detected; TR means Trace.

Attachment 3

Bulk Asbestos Sample Drawings

BUILING 886 RCLP Asbestos Sampling Locations

(#) = SAMPLE LOCATIONS THAT CORRESPOND the last 3 digits of the sample number.
(886-971121-MS-___, 886-971124-MS-___)

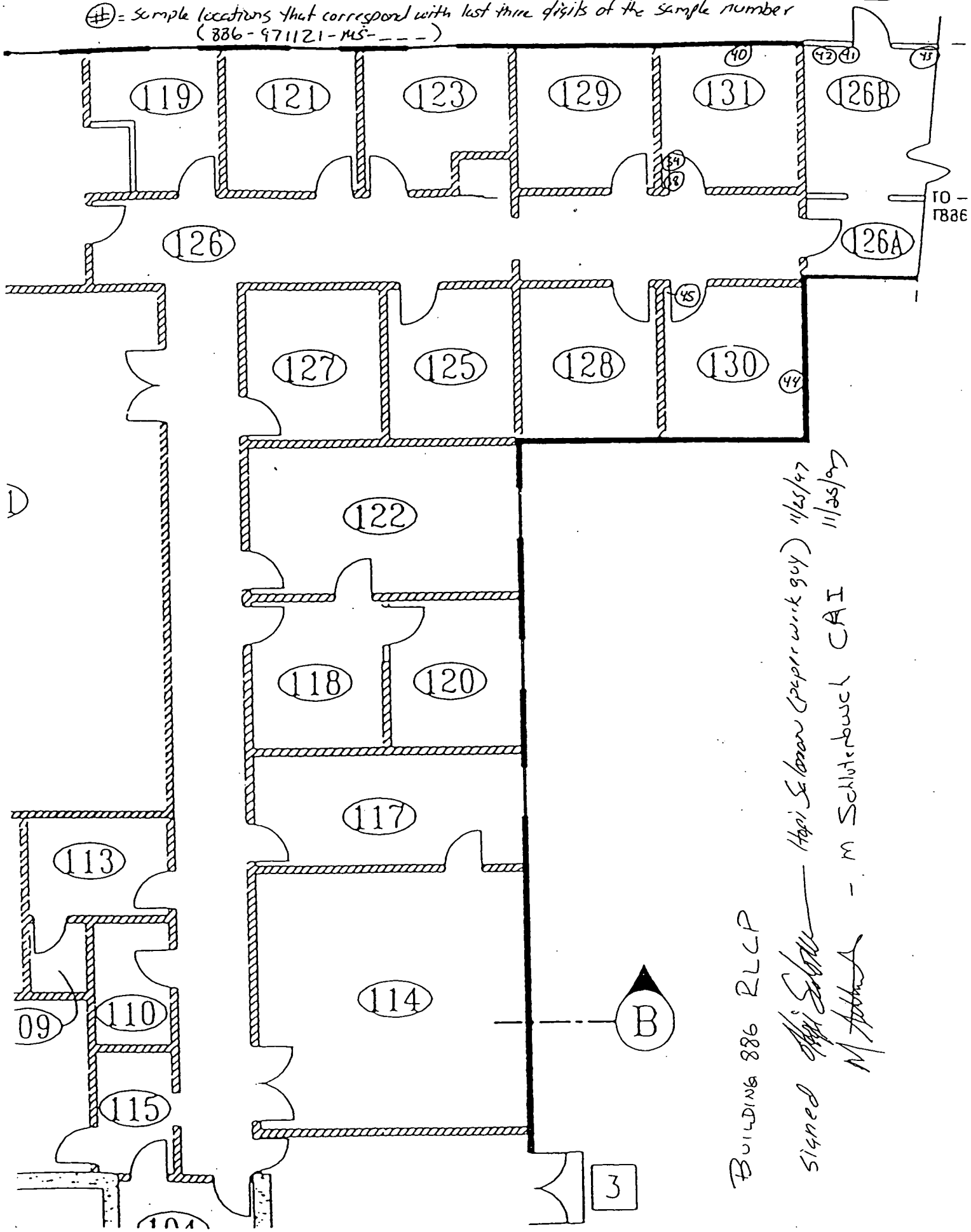


Signed Hopi Solomon 11/25/97
M Smith 11/25/97

Not to scale

Building 886 Asbestos Sampling Location

(#) = Sample locations that correspond with last three digits of the sample number
(886-971121-MS-___)

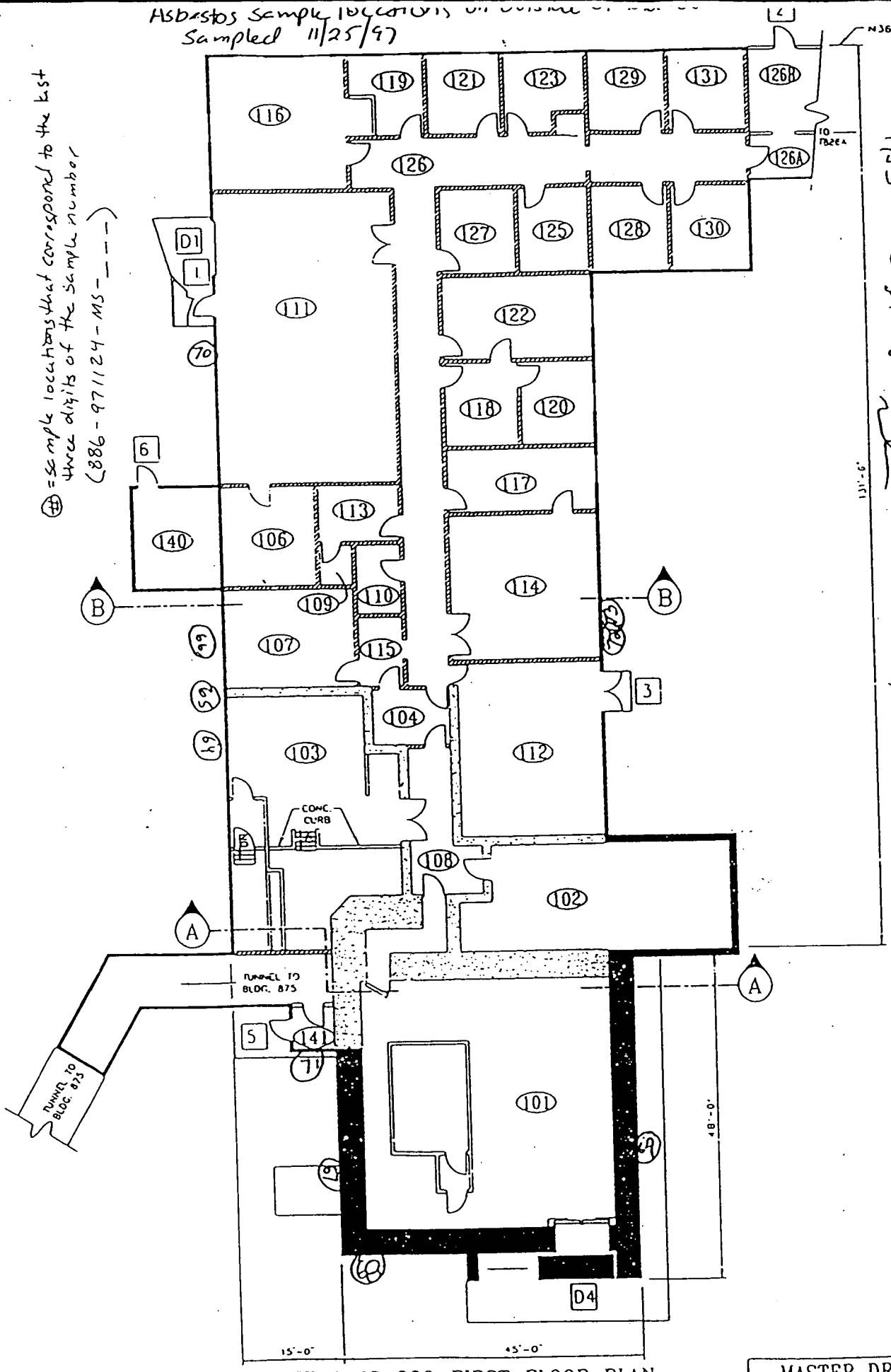


Building 886 RLCP

Signed [illegible] — Hari Sekaran (paper work only) 11/25/97
M [illegible] - M Schlitenbuck CAI 11/25/97

Asbestos sample locations on outside of [illegible]
Sampled 11/25/97

⊕ = sample locations that correspond to the last three digits of the sample number (886-971124-MS-___)



BUILDING 886-FIRST FLOOR PLAN

SCALE: 1"=10'-0"

MASTER DRAWING

MAINTAIN AS-BUILT PER CDEM 662

Samplers - [illegible] (paperwork) 11/26/97
CHI - [illegible] sample acquisition 11/25/97
HSS - B. Spears [illegible] 11-25-97

Building 886 RLCP

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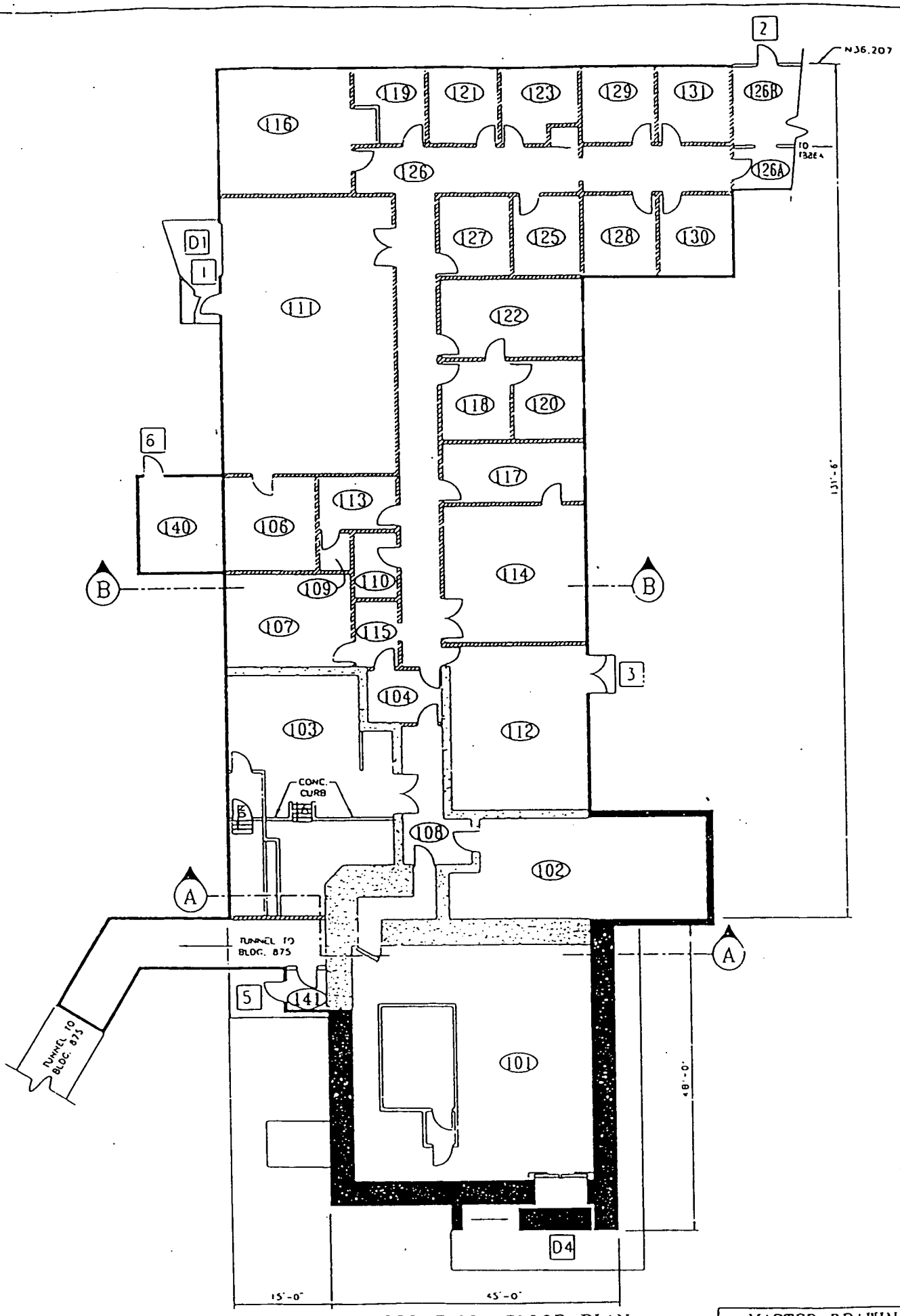


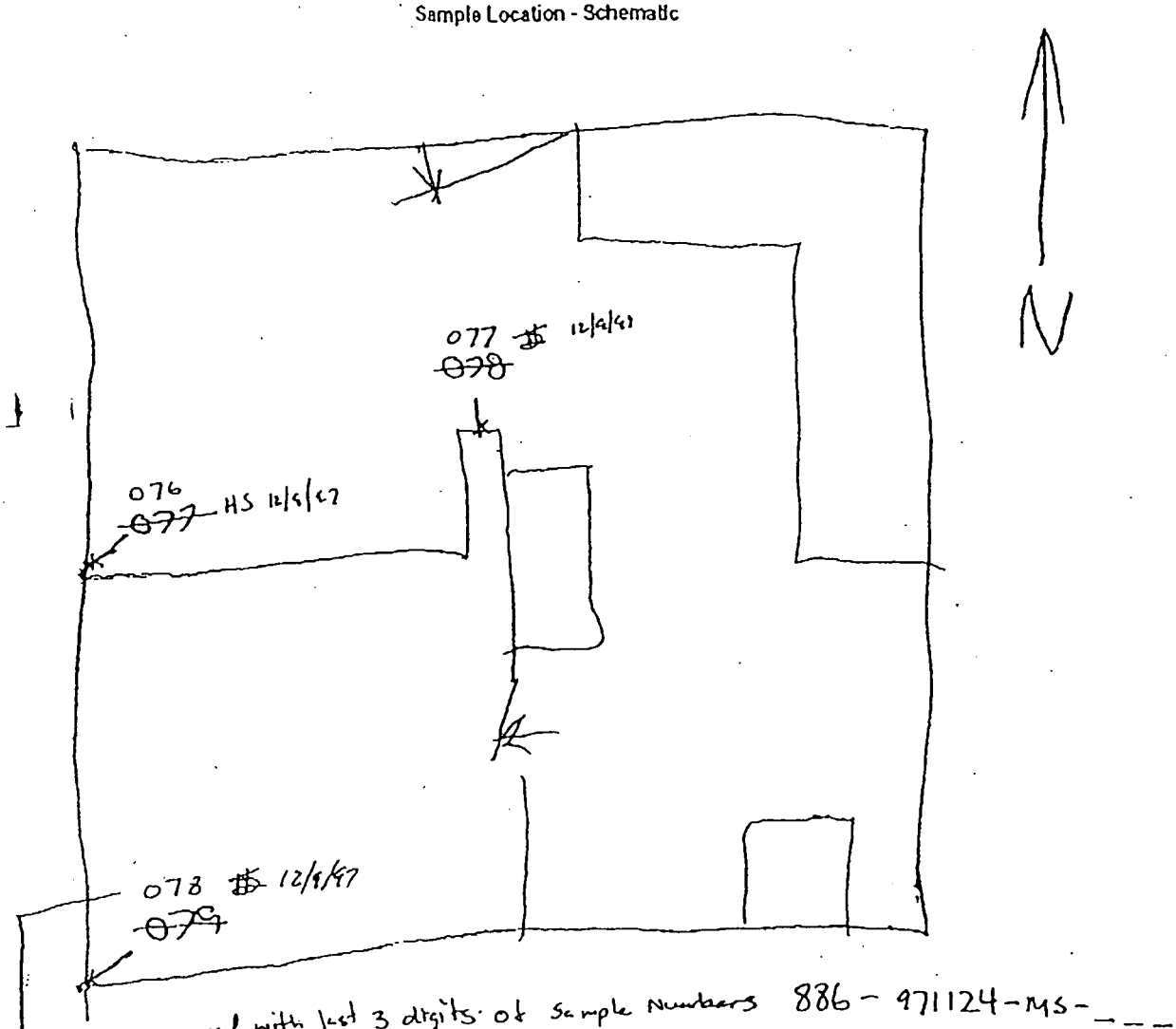
BUILDING 886-FIRST FLOOR PLAN

SCALE: 1"=10'-0"

MASTER DRAWING

Asbestos Sample Locations - Building 888
12/8/97

Sample Location - Schematic



#'s correspond with last 3 digits of sample numbers 886-971124-MS-___

RIN 98D0452

Illustrated by: M Schluterbusch
Date: 12/8/97
Reviewed by: [illegible]
Date: 12/9/97

INFORMATION ONLY

Attachment 4

Laboratory Data

RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE 1. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 47649-1
Client: Kaiser-Hill Company, LLC
Client Project: RIN 98D0452
Date Samples Received: November 21, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 2 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	BRUC	Non-Fibrous Components (%)
886-971119-MS-001	EM 318274	A	White fibrous woven material with white paint	20		ND	70	0	0	0	0	0	0	30
		B	White fibrous plaster	80	Chrysotile Amosite	8 2	0	35	0	0	0	0	0	55
886-971119-MS-002	EM 318275	A	Silver foil	3		ND	0	0	0	0	0	0	0	100
		B	White fibrous woven material with white paint	12		ND	70	0	0	0	0	0	0	30
		C	Yellow fibrous material	20		ND	0	88	0	0	0	0	0	12
		D	White plaster	65	Chrysotile Amosite	6 2	0	37	TR	0	0	0	0	55
886-971119-MS-003	EM 318276	A	White paint	5		ND	0	0	0	0	0	0	0	100
		B	Silver foil	7		ND	0	0	0	0	0	0	0	100
		C	Gray fibrous material	18	Chrysotile	85	0	0	0	0	0	0	TR	15
		D	Gold fibrous material	25		ND	0	85	0	0	0	0	0	15
		E	White fibrous plaster	45	Chrysotile Amosite	6 2	0	37	0	0	0	0	0	55
886-971119-MS-004	EM 318277	A	White paint	8	Chrysotile	TR	0	0	0	0	0	0	0	100
		B	Gray granular plaster	92		ND	0	0	TR	0	0	0	0	100
886-971119-MS-005	EM 318278	A	White fibrous woven material with white paint	5		ND	70	0	0	0	0	0	0	30
		B	White fibrous plaster	95	Chrysotile Amosite	15 TR	0	30	0	0	0	0	0	55

ND = None Detected
TR = Trace, < 1% Visual Estimate
CELL = Cellulose
ORG = Organic
Trem-Act = Tremolite-Actinolite
WOLL = Wollastonite
BRUC = Brucite
GYP = Gypsum
SYNTH = Synthetic

Analyst: PDL

Data QA

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RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 47649-1
Client: Kaiser-Hill Company, LLC
Client Project: RIN 98D0452
Date Samples Received: November 21, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 2 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	ASBESTOS CONTENT BY LAYER: Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971119-MS-006	EM 318279	A	White fibrous woven material with white paint	8		ND	70	0	0	0	0	0	0	30
		B	White fibrous plaster	92	Chrysotile Amosite	15 TR	0	30	0	0	0	0	0	55
886-971119-MS-007	EM 318280	A	White fibrous woven material with white paint	8		ND	70	0	0	0	0	0	0	30
		B	White fibrous plaster	92	Chrysotile Amosite	15 TR	TR	30	0	0	0	0	0	55
886-971119-MS-008	EM 318281	A	White fibrous woven material w/white paint & tan fibrous material	7		ND	50	0	0	0	0	0	0	50
		B	White fibrous plaster	93	Chrysotile Amosite	15 15	0	0	0	0	0	0	0	70
886-971119-MS-009	EM 318282	A	White fibrous woven material with white paint	6		ND	70	0	0	0	0	0	0	30
		B	White fibrous plaster	94	Chrysotile Amosite	15 TR	0	30	0	0	0	0	0	55
886-971119-MS-010	EM 318283	A	White fibrous woven material with white paint	5		ND	80	0	0	0	0	0	0	20
		B	Gray fibrous plaster	95	Amosite	20	0	0	0	0	0	0	0	80

ND = None Detected
TR = Trace, < 1% Visual Estimate
CELL = Cellulose
ORG = Organic
Tram-Act = Tremolite-Actinolite
WOLL = Wollastonite
BRUC = Brucite
GYP = Gypsum
SYNTH = Synthetic

Data QA

11/24/97 MON 10:20 FAX 303 893 8189 RES. ENV. SERV. 003

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RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 47849-1
Client: Kaiser-Hill Company, LLC
Client Project: RIN 98D0452
Date Samples Received: November 21, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 2 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	ASBESTOS CONTENT BY LAYER: Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971119-MS-011	EM 318284	A	White fibrous woven material with white paint	5		ND	70	0	0	0	0	0	0	30
		B	Gray fibrous plaster	95	Amosite	20	0	0	0	0	0	0	0	80
886-971119-MS-012	EM 318285	A	Tan resin	100		ND	12	0	0	0	0	0	0	88
886-971119-MS-013	EM 318286	A	White fibrous material	1	Chrysotile	98	0	0	0	0	0	0	0	2
		B	White paint	4		ND	0	0	0	0	0	0	0	100
		C	White resinous material	95		ND	0	0	0	0	0	0	0	100
886-971119-MS-014	EM 318287	A	Brown resin	10	Trem-Act	TR	0	0	0	0	0	0	0	100
					Anthophyllite	TR	0	0	0	0	0	0	0	100
		B	Black resinous material	90		ND	0	0	0	0	0	0	0	100
886-971119-MS-015	EM 318288	A	Gray fibrous perlitic material with white paint	100		ND	25	35	0	0	0	0	0	40
886-971119-MS-016	EM 318289	A	Black tar	4		ND	0	0	0	0	0	0	0	100
		B	Tan/white tile	96	Chrysotile	5	0	0	0	0	0	0	0	95

ND = None Detected
TR = Trace, < 1% Visual Estimate
CELL = Cellulose
ORG = Organic
Trem-Act = Tremolite-Actinolite
WOLL = Wollastonite
BRUC = Brucite
GYP = Gypsum
SYNTH = Synthetic

Date QA

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RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 47646-2
Client: Kaiser-Hill Company, LLC
Client Project: RIN98D0452, ME94AA
Date Samples Received: November 21, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 24 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971119-MS-017	EM 318242	A	Blue/black paint	5		ND	0	0	0	0	0	0	0	100
		B	Gray granular plaster	15		ND	0	0	0	0	0	0	0	100
		C	Tan granular plaster	80		ND	0	0	0	0	0	0	0	100
886-971119-MS-018	EM 318243	A	Tan paint w/white plaster	5	Chrysotile	2	0	0	0	0	0	0	0	98
					Point Count	*1.00*								
		B	Tan granular plaster	95		ND	0	0	0	0	0	0	0	100
886-971119-MS-019	EM 318244	A	Gray fibrous plaster	35		ND	15	8	10	0	3	0	0	64
		B	Multicolored tile	65		ND	0	0	0	0	0	0	0	100
886-971119-MS-020	EM 318245	A	Yellow resin	5		ND	0	0	0	0	0	10	0	90
		B	Brown resin	7		ND	0	0	0	0	0	3	0	97
		C	Tan resinous material	88		ND	0	0	0	0	0	0	0	100
886-971119-MS-021	EM 318246	A	White fibrous material w/white paint	100	Amosite	4	TR	78	0	0	0	0	0	18
					Point Count	*2.00*								
886-971119-MS-022	EM 318247	A	White paint	10		ND	0	98	0	0	0	0	0	2
		B	Yellow fibrous material	90		ND	0	0	0	0	0	10	0	90
886-971119-MS-023	EM 318248	A	White paint	8		ND	0	0	0	0	0	5	0	95
		B	Yellow fibrous material	92		ND	0	90	0	0	0	0	0	10

ND = None Detected; CELL = Cellulose; ORG = Organic; WOLL = Wollastonite; GYP = Gypsum
TR = Trace, < 1% Visual Estimate; Trem-Act = Tremolite-Actinolite; BRUC = Brucite; SYNTH = Synthetic

Analyst: PFK

Date QA

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RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1898

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 47646-1
Client: Kaiser-Hill Company, LLC
Client Project: RIN98D0452, ME94AA
Date Samples Received: November 21, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 24 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	ASBESTOS CONTENT BY LAYER: Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971119-MS-024	EM 318249	A	White fibrous woven material w/white paint	4		ND	90	0	0	0	0	0	0	10
		B	White fibrous plaster	96	Chrysotile	21	0	40	0	0	0	0	0	39
886-971119-MS-025	EM 318250	A	Black tar	5	Chrysotile	5	0	0	0	0	0	0	0	95
		B	Tan tile	95	Chrysotile	4	0	0	0	0	0	0	0	98

ND = None Detected
TR = Trace, < 1% Visual Estimate
CELL = Cellulose
ORG = Organic
Trem-Act = Tremolite-Actinolite
WOLL = Wollastonite
BRUC = Brucite
GYP = Gypsum
SYNTH = Synthetic

Data QA

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RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 47648-1
Client: Kaiser-Hill Company, LLC
Client Project: RIN98D0452
Date Samples Received: November 21, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 24 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. *Composite results only apply for specific exceptions.*

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	ASBESTOS CONTENT BY LAYER: Visual Estimate	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971119-MS-026	EM 318255	A	Black tar	8		ND	0	0	0	0	0	0	0	100
		B	White/tan tile	92	Chrysotile	4	0	0	0	0	0	0	0	96
886-971119-MS-027	EM 318256	A	Black tar	3		ND	0	0	0	0	0	0	0	100
		B	White/gray tile	97	Chrysotile	3	0	0	0	0	0	0	0	97
886-971119-MS-028	EM 318257	A	Multicolored paint	5		ND	0	0	0	0	0	0	0	100
		B	White plaster	15		ND	0	0	0	0	0	0	0	100
		C	White granular plaster	40		ND	TR	0	0	0	0	0	0	100
		D	Blue foam	40		ND	0	0	0	0	0	0	0	100
886-971119-MS-029	EM 318258	A	Multicolored paint	5		ND	0	0	0	0	0	0	0	100
		B	White plaster	10		ND	0	0	0	0	0	0	0	100
		C	Blue foam	35		ND	0	0	0	0	0	0	0	100
		D	White granular plaster	50		ND	0	0	0	0	0	0	0	100
886-971119-MS-030	EM 318259	A	Black tar	2		ND	0	0	0	0	0	0	0	100
		B	Tan resin	13		ND	TR	0	8	0	0	0	0	92
		C	White/gray tile	30	Chrysotile	3	0	0	0	0	0	0	0	97
		D	Blue tile	55	Chrysotile	5	0	0	0	0	0	0	0	95
886-971119-MS-031	EM 318260	A	Multicolored paint	5		ND	0	0	0	0	0	0	0	100
		B	Gray granular plaster	95		ND	0	0	0	0	0	0	0	100

ND = None Detected CELL = Cellulose ORG = Organic WOLL = Wollastonite GYP = Gypsum Analyst: PDL
TR = Trace, < 1% Visual Estimate Trem-Act = Tremolite-Actinolite BRUC = Brucite SYNTH = Synthetic Date QA

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RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 47648-2
Client: Kaiser-Hill Company, LLC
Client Project: RIN98D0452, ME94AA
Date Samples Received: November 21, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 24 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	ASBESTOS CONTENT BY LAYER: Visual Estimate	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971119-MS-032	EM 318261	A	Multicolored paint	5		ND	0	0	0	0	0	0	0	100
		B	White plaster	10		ND	0	0	0	0	0	0	0	100
		C	White granular plaster	40		ND	TR	0	0	TR	0	0	0	100
		D	Blue foam	45		ND	0	0	0	0	0	0	0	100
886-971119-MS-033	EM 318262	A	Black tar	2		ND	0	0	0	0	0	0	0	100
		B	Tan resin	13		ND	2	0	2	0	0	0	0	96
		C	Red/white tile	35	Chrysotile	4	0	0	0	0	0	0	0	98
		D	White tile	50	Chrysotile	4	0	0	0	0	0	0	0	96
886-971119-MS-034	EM 318263	A	White fibrous material w/white paint	100	Amosite	8	0	75	0	0	0	0	0	17
886-971119-MS-035	EM 318264	A	White fibrous material w/white paint	100	Chrysotile *Point Count*	TR *ND*	0	80	0	0	0	0	0	20
886-971119-MS-036	EM 318265	A	Tan fibrous perlitic material w/white paint	100		ND	25	40	0	0	0	0	0	35
886-971119-MS-037	EM 318266	A	Black tar	5		ND	0	0	0	0	0	0	0	100
		B	Tan resin	10		ND	1	0	1	0	0	0	0	98
		C	Tan/brown tile	85	Chrysotile	8	0	0	0	0	0	0	0	92

ND = None Detected; CELL = Cellulose; ORG = Organic; WOLL = Wollastonite; GYP = Gypsum
TR = Trace, < 1% Visual Estimate; Trem-Act = Tremolite-Actinolite; BRUC = Brucite; SYNTH = Synthetic

Date QA

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RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES. Job Number: RES 47729-2
Client: Kaiser-Hill Company, LLC
Client Project: 98D0462,
Date Samples Received: November 25, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 3-5 Day

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971121-MS-046	EM 318841	A	Gray granular plaster	1		ND	0	0	0	0	0	0	0	100
		B	White plaster w/multicolored paint	4		ND	97	0	0	0	0	0	0	3
		C	Tan fibrous material	15	Chrysotile	TR	0	0	0	0	0	0	0	100
					Point Count	*0.5*								
		D	Blue foam	15		ND	0	0	0	0	0	0	0	100
		E	White plaster	65		ND	8	0	0	0	0	0	0	92
886-971121-MS-047	EM 318842	A	Multicolored paint	5		ND	0	0	0	0	0	0	0	100
		B	White plaster	20		ND	0	0	0	0	0	0	0	100
		C	Blue foam	20		ND	0	0	0	0	0	0	0	100
		D	White granular plaster	55		ND	TR	0	0	0	0	0	0	100
886-971121-MS-048	EM 318843	A	White plaster	3	Chrysotile	5	0	0	0	0	0	0	0	95
					Point Count	*2.25*								
		B	Multicolored paint	7		ND	0	0	0	0	0	0	0	100
		C	Gray granular plaster	90		ND	0	0	0	0	0	0	0	100
886-971121-MS-049	EM 318844	A	Multicolored resin w/white paint	15	Trem-Act	TR	0	0	0	0	4	4	0	92
		B	Brown resinous material	85		ND	0	0	0	0	0	0	0	100
886-971121-MS-050	EM 318845	A	Multicolored paint	10		ND	0	0	0	0	0	0	0	100
		B	White plaster	30		ND	0	0	0	0	0	0	0	100
		C	Gray granular plaster	60		ND	TR	0	0	0	0	0	0	100
886-971121-MS-051	EM 318846	A	Tan/brown resin w/pink paint	10	Trem-Act	TR	0	0	0	0	4	1	0	95
		B	Brown resinous material	90		ND	0	0	0	0	0	0	0	100

ND = None Detected CELL = Cellulose ORG = Organic WOLL = Wollastonite GYP = Gypsum Analyst: PDL
TR = Trace, < 1% Visual Estimate Trem-Act = Tremolite-Actinolite BRUC = Brucite SYNTH = Synthetic

QA

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RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 47729-2
Client: Kaiser-Hill Company, LLC
Client Project: 98D0452,
Date Samples Received: November 25, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 3-5 Day

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971121-MS-052	EM 318847	A	White fibrous material w/white paint	100	Amosite	10	0	70	0	0	0	0	0	20
886-971121-MS-053	EM 318848	A	White plaster	1	Chrysotile	3	0	0	0	0	0	0	0	97
					Point Count	*1.75*								
		B	Multicolored paint	7		ND	0	0	0	0	0	0	0	100
		C	Gray granular plaster	92		ND	0	0	0	0	0	0	0	100
886-971121-MS-054	EM 318849	A	White plaster	2	Chrysotile	3	0	0	0	0	0	0	0	97
					Point Count	*1.0*								
		B	Multicolored paint	6		ND	0	0	0	0	0	0	0	100
		C	Gray granular plaster	92		ND	0	0	0	0	0	0	0	100
886-971121-MS-055	EM 318850	A	Black tar	8		ND	0	0	0	0	0	0	0	100
		B	Gray/multicolored tile	92	Chrysotile	3	0	0	0	0	0	0	0	97
886-971121-MS-056	EM 318851	A	Multicolored paint	5		ND	0	0	0	0	0	0	0	100
		B	White plaster	10		ND	0	0	0	0	0	0	0	100
		C	Blue foam	35		ND	0	0	0	0	0	0	0	100
		D	Gray granular plaster	50		ND	0	0	0	0	0	0	0	100
886-971121-MS-057	EM 318852	A	Black tar	5		ND	0	0	0	0	0	0	0	100
		B	Tan resin	10		ND	10	0	TR	0	0	0	0	90
		C	White tile	40	Chrysotile	5	0	0	0	0	0	0	0	95
		D	Tan tile	45	Chrysotile	5	0	0	0	0	0	0	0	95

ND = None Detected CELL = Cellulose ORG = Organic WOLL = Wollastonite GYP = Gypsum
TR = Trace, < 1% Visual Estimate Tram-Act = Tremolite-Actinolite BRUC = Brucite SYNTH = Synthetic

Data QA

RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 47729-2
Client: Kaiser-Hill Company, LLC
Client Project: 98D0452,
Date Samples Received: November 25, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 3-5 Day

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971121-MS-058	EM 318853	A	Tan resin w/black tar	10		ND	0	0	0	0	0	0	0	100
		B	White tile	45	Chrysotile	5	0	0	0	0	0	0	0	95
		C	Blue tile	45	Chrysotile	8	0	0	0	0	0	0	0	92
886-971121-MS-059	EM 318854	A	Blue/white paint	3		ND	0	0	0	0	0	0	0	100
		B	White plaster	7		ND	0	0	0	0	0	0	0	100
		C	Blue foam	40		ND	0	0	0	0	0	0	0	100
		D	White granular plaster	50		ND	TR	0	0	TR	0	0	0	100
886-971121-MS-060	EM 318855	A	Black tar	1		ND	0	0	0	0	0	0	0	100
		B	White tile	14	Chrysotile	5	0	0	0	0	0	0	0	95
		C	Gray fibrous material w/white resin	40		ND	30	7	8	0	5	0	0	50
		D	Multicolored resinous tile	45		ND	0	0	0	0	0	0	0	100
886-971121-MS-061	EM 318856	A	Multicolored paint w/white plaster	6	Chrysotile	TR	0	0	0	0	0	0	0	100
					Point Count	*TR*	Observed but not countable under protocol, < 0.25%							
		B	Gray granular plaster	94		ND	0	0	0	0	0	0	0	100
886-971121-MS-062	EM 318857	A	White plaster	5	Chrysotile	4	0	0	0	0	0	0	0	96
					Point Count	*1.25*								
		B	Multicolored paint	5		ND	0	0	0	0	0	0	0	100
		C	Gray granular plaster	90		ND	TR	0	0	0	0	0	0	100
886-971121-MS-063	EM 318858	A	Multicolored paint	7		ND	0	0	0	0	0	0	0	100
		B	White plaster	8	Chrysotile	5	0	0	0	0	0	0	0	95
					Point Count	*3.0*								
		C	Gray granular plaster	85		ND	0	0	0	0	0	0	0	100

ND = None Detected; CELL = Cellulose; ORG = Organic; WOLL = Wollastonite; GYP = Gypsum
TR = Trace, < 1% Visual Estimate; Trem-Act = Tremolite-Actinolite; BRUC = Brucite; SYNTH = Synthetic

Data QA

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RESERVOIRS ENVIRONMENTAL SERVICES, INC.

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TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 47732-1
Client: Kaiser-Hill Company, LLC
Client Project: 98D0452, ME84AA
Date Samples Received: November 25, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 3-5 Day

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	ASBESTOS CONTENT BY LAYER: Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971124-MS-069	EM 318906	A	Gray granular plaster	30		ND	0	0	0	0	0	0	0	100
		B	Multicolored resinous paint	70		ND	0	0	0	0	0	0	0	100
886-971124-MS-070	EM 318907	A	Gray granular plaster	35		ND	0	0	0	0	0	0	0	100
		B	Gray plaster w/tan/white paint	65		ND	0	0	0	0	0	0	0	100
886-971124-MS-071	EM 318908	A	Gray granular plaster	40		ND	0	0	0	0	0	0	0	100
		B	Green plaster w/tan & white paint	60		ND	0	0	0	0	0	0	0	100
886-971124-MS-072	EM 318909	A	Gray granular plaster	25		ND	0	0	0	0	0	0	0	100
		B	Green plaster w/tan & white paint	75		ND	0	0	0	0	0	0	0	100
886-971124-MS-073	EM 318910	A	Gray granular plaster	30		ND	0	0	0	0	0	0	0	100
		B	Green plaster w/tan & white paint	70		ND	0	0	0	0	0	0	0	100

ND = None Detected
TR = Trace, < 1% Visual Estimate
CELL = Cellulose
ORG = Organic
Trem-Act = Tremolite-Actinolite
WOLL = Wollastonite
BRUC = Brucite
GYP = Gypsum
SYNTH = Synthetic

Data QA

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RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 47732-1
Client: Kaiser-Hill Company, LLC
Client Project: 98D0452, ME94AA
Date Samples Received: November 25, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 3-5 Day

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	ASBESTOS CONTENT BY LAYER: Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971124-MS-064	EM 318901	A	Silver foil w/white fibrous woven material	10		ND	0	5	0	0	0	0	0	95
		B	Tan fibrous material	10		ND	96	0	0	0	0	0	0	4
		C	Gold fibrous material	15		ND	0	80	0	0	0	0	0	20
		D	Black tar w/pink/white paint	65	Chrysotile	20	0	0	0	0	0	0	0	80
886-971124-MS-065	EM 318902	A	Yellow fibrous material	5		ND	0	80	0	0	0	0	0	20
		B	Silver foil w/tan fibrous material & white fibrous woven material	15		ND	60	10	0	0	0	0	0	30
		C	Black tar w/pink & white paint	80	Chrysotile	20	0	0	0	0	0	0	0	80
886-971124-MS-066	EM 318903	A	Yellow fibrous material	5		ND	0	80	0	0	0	0	0	20
		B	Tan fibrous material w/silver foil, white fibrous woven material	10		ND	60	15	0	0	0	0	0	25
		C	Black fibrous tar w/multicolored paint	85	Chrysotile	45	0	0	0	0	0	0	0	55
886-971124-MS-067	EM 318904	A	Multicolored resinous paint	30		ND	0	0	0	0	0	0	0	100
		B	Gray granular plaster	70		ND	0	0	0	0	0	0	0	100
886-971124-MS-068	EM 318905	A	Gray granular plaster	15		ND	0	0	0	0	0	0	0	100
		B	Tan/green resinous paint	85		ND	0	0	0	0	0	0	0	100

ND = None Detected; CELL = Cellulose; ORG = Organic; WOLL = Wollastonite; GYP = Gypsum
TR = Trace, < 1% Visual Estimate; Tram-Act = Tremolite-Actinolite; BRUC = Brucite; SYNTH = Synthetic

Analyst: PDL

Data QA

RESERVOIRS ENVIRONMENTAL SERVICES, INC.

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TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 47964-1
Client: *Kaiser-Hill Company, LLC*
Client Project: RIN 98D0452
Date Samples Received: December 08, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 24 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	ASBESTOS CONTENT BY LAYER: Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971124-MS-074	EM 320266	A	Multicolored paint w/trace gray plaster	3	Chrysotile	TR	0	0	0	0	0	0	0	100
		B	Gray granular plaster	97		ND	0	0	0	0	0	0	0	100
886-971124-MS-075	EM 320267	A	Gray granular plaster w/gray paint	100		ND	0	0	0	0	0	0	0	100

ND = None Detected CELL = Cellulose ORG = Organic WOLL = Wollastonite GYP = Gypsum Analyst: POL
TR = Trace, < 1% Visual Estimate Trem-Act = Tremolite-Actinolite BRUC = Brucite SYNTH = Synthetic Data QA

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RESERVOIRS ENVIRONMENTAL SERVICES, INC.

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TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 48002-1
Client: Kaiser-Hill Company, LLC
Client Project: FF332500 / 98D0601,
Date Samples Received: December 09, 1997
Analysis Type: PLM Short Report, Bulk
Turnaround: 2 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	ASBESTOS CONTENT BY LAYER: Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
886-971124-MS-076	EM 320435	A	White paint	5		ND	0	0	0	0	0	0	0	100
		B	Brown fibrous material	15		ND	98	0	0	0	0	0	0	2
		C	White plaster (mud)	15		ND	0	0	0	0	0	0	0	100
		D	White plaster (drywall)	65		ND	1	3	0	0	0	0	0	96
886-971124-MS-077	EM 320436	A	White paint	5		ND	0	0	0	0	0	0	0	100
		B	Brown fibrous material	10		ND	98	0	0	0	0	0	0	2
		C	White plaster (mud)	20		ND	0	0	0	0	0	0	0	100
		D	White plaster (drywall)	65		ND	1	3	0	0	0	0	0	96
886-971124-MS-078	EM 320437	A	White paint	4		ND	0	0	0	0	0	0	0	100
		B	Brown fibrous material	10		ND	98	0	0	0	0	0	0	2
		C	White plaster (mud)	20		ND	0	0	0	0	0	0	0	100
		D	White plaster (drywall)	66		ND	1	3	0	0	0	0	0	96

ND = None Detected CELL = Cellulose ORG = Organic WOLL = Wollastonite GYP = Gypsum Analyst: PFK
TR = Trace, < 1% Visual Estimate Trem-Act = Tremolite-Actinolite BRUC = Brucite SYNTH = Synthetic

Data QA

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