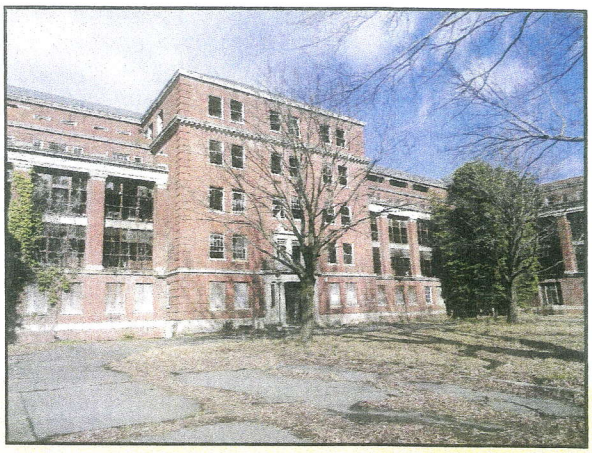
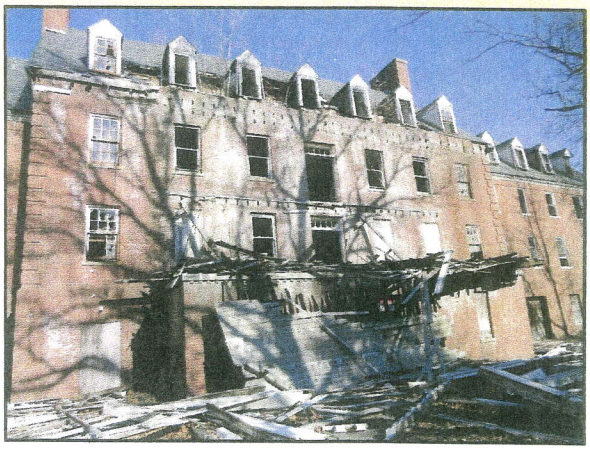


Asbestos-Containing Materials Report



Former Glenn Dale Hospital Complex
5201 Glenn Dale Road
Glenn Dale, Maryland 20796

Prepared For
Mr. Charles Montrie
The Maryland-National Capital Park
And Planning Commission
Department of Parks and Recreation
6600 Kenilworth Avenue
Riverdale, Maryland 20737

Prepared By
KCI Technologies Inc.
936 Ridgebrook Road
Sparks, Maryland 21152
KCI Job No: 27122989

April 5, 2013

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 Ridgebrook Road • Sparks, MD 21152 • Phone 410-316-7800 • Fax 410-316-7885

April 5, 2013

The Maryland-National Capital Park and Planning Commission
Department of Parks and Recreation
6600 Kenilworth Avenue
Riverdale, Maryland 20737

Attention: Mr. Charles Montrie

Subject: Executive Summary: Limited Phase II Environmental Site Assessment, Asbestos Investigation, and Cost Estimates
Glenn Dale Hospital
KCI Job No. 27122989

Under separate cover we have forwarded to you a copy of our reports entitled "Limited Phase II Environmental Site Assessment, Former Glenn Dale Hospital" and "Asbestos-Containing Materials Investigation." This letter provides a summary of the findings, recommendations and cost estimates contained in these reports.

Limited Phase II ESA

Our Limited Phase II Environmental Site Assessment (ESA) Report recommends that the Maryland-National Capital Park and Planning Commission (M-NCPPC) immediately pump out the contents of two fuel storage tanks, and disclose the presence of undocumented underground storage tanks (USTs) to the Maryland Department of the Environment (MDE). The ESA Report can also be provided to the MDE. The sooner these actions are taken the better, to demonstrate good faith efforts to responsibly manage the USTs. Once the USTs are reported, the MDE will open a case file and certain timelines for response will be triggered. You can anticipate that the MDE will also schedule a site meeting to evaluate conditions for themselves. Such a meeting may afford you the opportunity to discuss your plans to redevelop the property, and negotiate / prioritize your response actions. It should be emphasized that the MDE may order the M-NCPPC to close some or all of the USTs on a schedule that does not align with your redevelopment plans. Closure may involve removing USTs and contaminated soils, closing the USTs in place (e.g. filling them with concrete and collecting additional soil and groundwater samples), development of a more detailed site assessment report focused on groundwater conditions, long-term groundwater monitoring, or a combination of these actions or others.

We have contacted a MD Certified Tank Removal company (Commercial Fuel Systems Inc., or CFS) that we have a relationship with, to obtain ballpark cost estimates of the remediation costs associated with the USTs. The costs are broken into three categories: liquids removal, UST removal, and contaminated soil removal.

<u>UST Liquids</u>

We are aware of approximately 1,160 gallons of liquid to be removed and disposed of. However the three largest USTs could not be accessed to determine their contents. To remove the known liquid, the M-NCPPC can estimate approximately $1,000 to mobilize a vac truck and an operator for a day, and approximately $0.60 per gallon to dispose of the liquid, for a total of approximately $1,700.

This cost will rise if Tanks #3, #5, or #6 also are found to contain liquids. We believe it is reasonable to assume that Tanks #5 and #6 will be ½-full of liquid, based on their dimensions, age, and the 5.7-foot depth to groundwater in the temporary well KCI installed in this area. Older unmanaged USTs typically develop leaks, and if groundwater intrudes the USTs then it will need to be evacuated and treated, even if little fuel remains. Based on the unit prices provided above and an assumed 10,000 gallons of liquid to be removed, the cost to remove and dispose of the liquids from Tanks #5 and #6 would be in the range of $7,000.

USTs

Based on verbal estimates provided by CFS, we estimate a cost of $50,000 to $80,000 to remove Tanks #2-6. This would include removing the USTs, disposing of them at a permitted location, providing a certificate of disposal, backfilling the excavations with self-compacting material such as #57 stone, and restoring the original grade. Tank #1 would not be removed because it appears to have been closed in place. It must be emphasized that this cost estimate assumes no additional effort is required to maintain the integrity of the adjacent structures, or to provide exceptional efforts for worker safety. Such costs could be significant, and would likely preclude removal of the two largest tanks (Tanks #5 and #6) at the foot of the smokestack, unless the smokestack is removed first.

UST-related Soil Removal

With respect to USTs, this is the most difficult cost to assess, because the limited scope of our investigation did not allow a thorough assessment of the limits of contaminated soil, and it is not certain what level of removal MDE may accept. CFS provided a unit price of $75 per ton to transport and dispose (T&D) of contaminated soil that may be generated at the project. Based on our site assessment, we expect contaminated soil to be encountered at Tanks #3, #4, #5, and #6. It is not possible to provide an accurate estimate of the amount of soil that may need to be removed, but we believe the amount will be in the range of 50-200 tons at Tank #3, 50-200 tons at Tank #4, and 500-2,000 tons at Tanks #5-6. This puts the T&D cost in the range of $45,000 to $180,000. This is a wide range, but is realistic given the limited amount of information available to date and the fact that no dialogue with MDE has yet taken place. The M-NCPPC needs also to bear in mind that these costs are just for T&D of the contaminated materials; they do not include the contractor's labor or equipment charges for excavation and loading, engineering charges, groundwater treatment costs, or measures to protect buildings such as installation of sheet piling. For a sizeable excavation, the T&D costs typically outweigh labor, equipment, and engineering costs, but the cost to protect buildings may vary widely.

Asbestos-Containing Materials Investigation

KCI investigated buildings at the hospital complex for asbestos-containing materials, primarily for the purpose of developing a cost estimate for the abatement of asbestos-containing materials prior to demolition or renovation. KCI anticipates that additional investigations will be required prior to abatement, demolition or renovation of these buildings, including additional sampling to comply with AHERA regulatory requirements, additional efforts to specify locations and quantities of asbestos-containing materials, and an assessment of conditions at the (future) time of abatement.

It should be noted that the buildings are not in stable conditions; roof leaks, metal thieves, vandals and gravity have affected and will continue to affect the condition of the buildings and the asbestos-containing materials within them. Locations and quantities of asbestos-containing materials, and the cost to remove these materials, will change over time.

Two budgetary cost estimates were calculated for each building. One estimate is based on the assumption that the building will be demolished; the other is based on the assumption that the building will be renovated and re-occupied. The abatement costs are less for buildings that are to be demolished, because required engineering controls are less stringent for buildings to be demolished, and because post-abatement clearance air sampling is not required in buildings to be demolished. Alto, non-RACM (Regulated Asbestos-Containing Materials) that may require removal prior to renovation may not need to be removed prior to demolition.

KCI estimates that asbestos abatement costs for all buildings, including professional services required during abatement, will fall in the range between $4,400,000 and $5,000,000. This cost estimate is based on the current conditions of the buildings. As the buildings deteriorate further, the costs will likely increase, as more materials become contaminated with asbestos and as fewer portions of the buildings remain structurally sound enough to allow for safe entry for asbestos abatement.

Prior to advertising for renovation or demolition bids, KCI recommends an additional investigation to:

- Collect additional bulk samples in accordance with AHERA sampling protocols;
- Refine the scope of abatement, based on conditions found at the time of abatement;
- Further investigate buried steam pipes to determine if asbestos-containing materials are present, to identify the type of asbestos-containing materials, and to determine the quantity and location of asbestos-containing materials on buried steam pipes;
- Determine location and quantities of asbestos-contaminated debris;
- Identify building components that will require demolition in order to access hidden asbestos-containing materials;
- Assess buildings for structural integrity and determine if asbestos-abatement can proceed safely.

The information obtained from this additional investigation should be used to prepare asbestos-abatement design and contract documents.

KCI recommends that all RACM be removed from buildings prior to demolition. Additionally, KCI recommends that all asbestos-containing materials that will be disturbed during any proposed renovations be removed. All asbestos abatement should be performed by a licensed asbestos abatement contractor in accordance with applicable Federal, State, and local regulations.

KCI appreciates the opportunity to work with you on this project. We look forward to discussing with you the findings in the ESA Report, Asbestos-Containing Materials Investigation, the cost estimate, or other related topics.

Very truly yours

Jeff Gernand

Jeff Gernand, P.G.
Senior Hydrogeologist
Hazardous Waste Practice

Cc: Tim Miller, KCI Land Development Practice

Asbestos-Containing Materials Investigation Report

Of

Glenn Dale Hospital Complex
5201 Glenn Dale Road
Glenn Dale, Maryland 20796

Prepared For:

Mr. Charles Montrie
The Maryland-National Capital Park and Planning Commission
Department of Parks and Recreation
6600 Kenilworth Avenue
Riverdale, Maryland 20737

Prepared By:

KCI Technologies, Inc.
936 Ridgebrook Road
Sparks, Maryland 21152
KCI Project: 27122989

April 5, 2013

Executive Summary

KCI Technologies, Inc. (KCI) was retained by The Maryland-National Capital Park and Planning Commission to conduct a limited investigation of asbestos-containing materials at the former Glenn Dale Hospital property, located at 5201 Glenn Dale Road in Glenn Dale, Maryland.

KCI investigated buildings at the hospital complex for asbestos-containing materials, primarily for the purpose of developing a cost estimate for the abatement of asbestos-containing materials prior to demolition or renovation. KCI calculated separate cost estimates for demolition and renovation scenarios. KCI identified the following asbestos-containing materials:

Building 1 – Capper Hall
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, tank insulation, and transite siding. **Cost Estimate: $48,600 (demolition) – $64,700 (renovation)**

Building 2 – Children's Hospital
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, tank insulation, radiator insulation, fire doors, roofing material, floor tile and mastic.. **Cost Estimate: $768,890 - $959,840**

Building 3 – Peabody Hall
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, tank insulation, and roofing materials. **Cost Estimate: $26,480 - $36,150**

Building 4 – McCarren Hall
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, tank insulation, duct insulation, floor tiles and mastic, and transite siding. **Cost Estimate: $134,900 - $156,500**

Building 5 – West Duplex
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, tank insulation, floor tiles and mastic, and transite siding. **Cost Estimate: $19,050 – $22,475**

Building 6 could not be found and is presumed to have been demolished.

Building 7 could not be found and is presumed to have been demolished.

Building 8 – East Duplex
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, floor tiles and mastic, and transite siding. **Cost Estimate: $18,450 - $21,625**

Building 9 – Adult Hospital
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, tank insulation, ceiling tiles, roofing materials, floor tiles and mastic, vibration dampeners, duct insulation materials, transite hoods, conduit lining, acoustical surfacing, and duct insulation pin mastic. **Cost Estimate: $1,744,790 - $2,077,990**

Building 10 – Warehouse and Garage
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, floor tiles and mastic, window glazing, roofing materials and ceiling tiles. **Cost Estimate: $28,840 - $67,500**

Building 11 – Heating Plant
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, tank insulation, boiler insulation, stack insulation, floor tiles and mastic, transite window panels, and roofing materials. **Cost Estimate: $57,025 - $101,100**

Building 12 could not be found and is presumed to have been demolished.

Building 13 could not be found and is presumed to have been demolished.

Building 14 – Water Softening House
KCI identified asbestos-containing window glazing, and roofing materials. **Cost Estimate: $500 - $4,100**

Building 15 – Pump House
KCI identified asbestos-containing roofing materials. **Cost Estimate: $0 - $7,500**

Building 16 – Finucane Hall
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, tank insulation, floor tiles and mastic and roofing materials. **Cost Estimate: $185,200 – $237,700**

Building 17 – Laundry
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, joint compound, and roofing materials. **Cost Estimate: $26,080 – $34,380**

Building 18 – Gibson Hall
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, and roofing materials. **Cost Estimate: $26,240 – $35,300**

Building 19 – Hot House
Building 19 has collapsed. KCI identified asbestos-containing window glazing in the debris pile. **Cost Estimate: $2,000**

Building 20 – Apartment 1
Building 20 has collapsed. KCI has assumed the debris pile to contain friable asbestos-containing materials. **Cost Estimate: $170,000**

Building 21 – Apartment 2
KCI identified asbestos-containing pipe insulation, pipe fitting insulation, tank insulation, fire door insulation, floor tiles and floor tile mastic, and roofing materials. **Cost Estimate: $42,560 - $54,460**

Building 22 – Paint Shop
KCI identified asbestos-containing pipe fitting insulation, transite ceiling panels, window glazing, and roofing materials. **Cost Estimate: $3,750 - $7,450**

Building 23 – Incinerator
KCI identified asbestos-containing transite siding and roofing. **Cost Estimate: $2,000**

KCI also identified buried steam pipes and steam tunnels with asbestos-containing pipe insulation. **Cost Estimate: $400,000**

Total Cost Estimate (with professional services and 15% contingency): $4,400,000 - $5,400,00

These cost estimates are based on conditions at the time of the survey and are likely to change as the buildings deteriorate. KCI recommends additional investigations prior to abatement design to assess current conditions and to further refine the locations and quantities of asbestos-containing materials.

Table of Contents

Appendices

1.0 Introduction

KCI Technologies, Inc. (KCI) was retained by The Maryland-National Capital Park and Planning Commission to conduct a limited investigation of asbestos-containing materials at the former Glenn Dale Hospital property, located at 5201 Glenn Dale Road in Glenn Dale, Maryland.

KCI investigated buildings at the hospital complex for asbestos-containing materials, primarily for the purpose of developing a cost estimate for the abatement of asbestos-containing materials prior to demolition or renovation. KCI anticipates that additional investigations will be required prior to abatement, demolition or renovation of these buildings, including additional sampling to comply with regulatory requirements, additional efforts to specify locations and quantities of asbestos-containing materials, and an assessment of current conditions.

It should be noted that the buildings are not in stable conditions; roof leaks, metal thieves, vandals and gravity have affected and will continue to affect the condition of the buildings and the asbestos-containing materials within them. Locations and quantities of asbestos-containing materials, and the cost to remove these materials, will change over time.

2.0 Site Description

The former Glenn Dale Hospital complex was reported to consist of 23 buildings, totaling over 440,000 square feet of floor space. At the time of the survey, four of the buildings (Buildings 6, 7, 12 and 13) could not be located, and presumably have been demolished. Additionally, two of the buildings (Buildings 19 and 20) have collapsed and could not be entered for the investigation. KCI also investigated a building which had not been identified in the site plans provided to KCI. This building, a small one-story structure on the northern edge of the property, was not found to have suspect asbestos-containing materials.

Appendix A includes a site map indicating the locations of the buildings surveyed and the approximate location of steam tunnels and buried steam pipes.

3.0 Asbestos-Containing Materials (ACMs) Investigation

KCI representative Mr. Joshua Julius conducted the ACM survey of the subject site between January 4 and January 31, 2013. Mr. Julius is an Environmental Protection Agency (EPA) AHERA accredited asbestos building inspector (#119591). The scope of work included a visual evaluation of potential ACMs and the collection of bulk samples of these materials.

KCI collected 301 bulk samples of suspect ACMs using a metal utility knife that was driven through the suspect material to the substrate in order to obtain a sample containing all discrete layers. The samples were then placed in sealable plastic bags and assigned unique identifiers that were recorded on the bags and on the bulk survey sampling sheets. The suspect asbestos bulk samples were submitted, along with chain-of-custody forms, to AMA Analytical Inc. (AMA) in Lanham, Maryland. AMA is accredited by the American Industrial Hygiene Association, AIHA #100470, and National Institute of Standards and Technology through the National Voluntary Laboratory Accreditation Program (NVLAP) for Bulk Asbestos Analysis, NVLAP # 10920.

In some instances, KCI did not collect a sufficient number of samples to follow sampling protocols required by Asbestos Hazard and Emergency Response Act (AHERA). KCI recommends that additional samples be collected and analyzed prior to asbestos abatement or demolition.

Samples of bulk material were analyzed using polarized light microscopy (PLM)/Dispersion Staining following the EPA method 600/R-93/116, July 1993, "Method for the Determination of Asbestos in Bulk Building Materials". PLM is an optical microscopic technique that distinguishes the different types of asbestos fibers by their shape and unique optical properties. The technique is based on the refraction of light from various crystalline asbestos structures and the observation of the corresponding color changes through the microscope. Two samples, which PLM indicated contained trace asbestos, were subsequently analyzed by transmission electron microscopy (TEM), which has greater resolution than PLM.

The asbestos certificates of analysis are included in Appendix B of this report. The findings from each building are summarized on the following pages along with budgetary cost estimates for abatement.

Two budgetary cost estimates are provided for each building. One estimate is based on the assumption that the building will be demolished; the other is based on the assumption that the building will be renovated and re-occupied. The abatement costs are less for buildings that are to demolished, because required engineering controls are less stringent for buildings to be demolished, because post-abatement clearance air sampling is not required in buildings to be demolished, and because only Regulated Asbestos-Containing Materials (RACM) must be removed prior to demolition. RACM includes:

(a) Friable asbestos material,
(b) Category I non-friable ACM that has become friable,
(c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or
(d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

Building 1 – Capper Hall

Building 1 contains asbestos-containing pipe insulation within plaster walls and above plaster ceilings. At the time of the survey, some of these walls and ceilings had collapsed or been demolished. KCI recommends an additional investigation prior to abatement design to update the location and quantity of walls and ceilings that will require demolition as well as the quantity of plaster and other debris that has become contaminated with asbestos-containing pipe insulation. The quantities in the following table are based on current conditions, which are expected to continue to deteriorate with time.

Table 1 - Summary of Findings in Capper Hall (Building 1)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Plaster – Skim	Throughout	GD1-1, 11, 13	NAD	NA	NA	NA	NA
Plaster – Base	Throughout	GD1-2, 12, 14	NAD	NA	NA	NA	NA
Blown Insulation	Attic	GD1-3	NAD	NA	NA	NA	NA
Sheet Flooring	2nd Floor South Corridor	GD1-4	NAD	NA	NA	NA	NA
Black Mastic	Beneath Gd1-4	GD1-5	NAD	NA	NA	NA	NA
Wire Insulation	Throughout	GD1-6	NAD	NA	NA	NA	NA
Window Glazing	Throughout	GD1-10	NAD	NA	NA	NA	NA
Siding – Grey	Dormers	GD1-15	10% C	Y	600 SF	$900	$900
Pipe Insulation – White and Grey	Throughout	GD1-7, 8	5% C	Y	2,200 LF	$42,000	$33,600
Pipe Fitting Insulation	Throughout	GD1-9	65% C	Y	600 EA		
Tank Insulation – White	Mechanical Space	GD1-16	5% C, 15% A	Y	100 SF	$1,700	$1,200
Contaminated Soil	Crawlspaces	NA	NA	Y	1,800 SF	$10,800	$3,600
Contaminated Debris	Throughout	NA	NA	Y	2,500 SF (10 Tons)	$5,300	$5,300
Selective Demolition (plaster walls, ceilings, terracotta block walls)					2,000 SF	$4,000	$4,000
TOTAL ESTIMATED ABATEMENT COST						**$64,700**	**$48,600**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; A – Amosite Asbestos; NAD – No Asbestos Detected
SF – Square Feet; LF – Linear Feet; EA – Each

Building 2 – Children's Hospital

Building 2 contains asbestos-containing pipe insulation within plaster walls and above plaster ceilings. At the time of the survey, some of these walls and ceilings had collapsed or been demolished. KCI recommends an additional investigation prior to abatement design to update the location and quantity of walls and ceilings that will require demolition, as well as the quantity of plaster and other debris that has become contaminated with asbestos-containing pipe insulation. The quantities in the following table are based on current conditions, which are expected to continue to deteriorate with time.

Table 2 – Summary of Findings in Children's Hospital (Building 2)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Sheet Flooring – Black	1st Floor	GD2-3	NAD	NA	NA	NA	NA
9" X 9" Floor Tile - Green	Throughout	GD2-5	NAD	NA	NA	NA	NA
Fire Door Insulation	North Stairwell	GD2-8	NAD	NA	NA	NA	NA
Plaster – Skim	Throughout	GD2-9, 14, 24	NAD	NA	NA	NA	NA
Plaster – Base	Throughout	GD2-10, 15, 25	NAD	NA	NA	NA	NA
Window Glazing	Throughout	GD2-11	NAD	NA	NA	NA	NA
1' X 1' Ceiling Tile	Basement	GD2-12	NAD	NA	NA	NA	NA
Brown Mastic Dot	Basement	GD2-13	NAD	NA	NA	NA	NA
Blown Insulation	Above Ceiling	GD2-16, 23	NAD	NA	NA	NA	NA
Terrazo Floor	Throughout	GD2-26	NAD	NA	NA	NA	NA
Tank Insulation – White	Basement	GD2-28	5% C, 15% A	Y	320 SF	$5,440	$3,840
Fire Door	Throughout	GD2-29	2% C, 5% A	Y	100 EA	$8,000	$8,000
All Floor Tile (All Colors/Patterns - except green 9"x9")	Throughout	GD2-1, 6, 17, 19	2% C	Y	60,000 SF	$480,000	$420,000
Floor Tile Mastic	Throughout	GD2-2, 7, 18	NAD - 2% C	Y			
Pipe Insulation – White and Grey	Throughout	GD2-4, 20, 21	2% C	Y	16,000 LF	$315,000	$252,000
Pipe Fitting Insulation	Throughout	GD2-22	65% C	Y	5,000 EA		
Radiator Insulation	Stairwells	GD2-27	60% C	Y	350 SF	$1,400	$1,050
Contaminated Debris	Throughout	NA	NA	Y	82,000 SF (200 Tons)	$64,000	$64,000
Roofing Materials	Roof	Not Sampled	Assumed Positive	N	22,000 SF	$66,000	$0
Selective Demolition (plaster walls, ceilings, terracotta block walls)					10,000 SF	$20,000	$20,000
TOTAL ESTIMATED ABATEMENT COST						**$959,840**	**$768,890**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; A – Amosite Asbestos; NAD – No Asbestos Detected
SF – Square Feet; LF – Linear Feet; EA – Each

Building 3 – Peabody Hall

Building 3 contains asbestos-containing pipe insulation within plaster walls and above plaster ceilings. At the time of the survey, some of these walls and ceilings had collapsed or been demolished. KCI recommends an additional investigation prior to abatement design to update the location and quantity of walls and ceilings that will require demolition, as well as the quantity of plaster and other debris that has become contaminated with asbestos-containing pipe insulation. The quantities in the following table are based on current conditions, which are expected to continue to deteriorate with time.

Table 3 – Summary of Findings in Peabody Hall (Building 3)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Plaster – Skim	Throughout	GD3-2, 5	NAD	NA	NA	NA	NA
Plaster – Base	Throughout	GD3-3, 6	NAD	NA	NA	NA	NA
Blown Insulation	Above Ceilings	GD3-4	NAD	NA	NA	NA	NA
Refrigerator Door Insulation	Basement	GD3-7	NAD	NA	NA	NA	NA
Pipe Insulation	Throughout	GD3-1	10% C, 2% Croc	Y	500 LF	$7,800	$6,240
Pipe Fittings	Throughout	Not Sampled	Assumed Pos.	Y	20 EA		
Tank Insulation	Basement	GD3-8	65 % C	Y	50 SF	$850	$600
Roofing Materials	Roof	Not Sampled	Assumed Positive	N	2,500 SF	$7,500	$0
Contaminated Debris	Throughout	NA	NA		5,000 SF (50 Tons)	$19,000	$19,000
Selective Demolition (plaster walls, ceilings, terracotta block walls)					500 SF	$1,000	$1,000
TOTAL ESTIMATED ABATEMENT COST						**$36,150**	**$26,840**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; Croc – Crocidolite Asbestos; NAD – No Asbestos Detected
SF – Square Feet; LF – Linear Feet; EA – Each

Building 4 – McCarren Hall

Building 4 contains asbestos-containing pipe insulation within plaster walls and above plaster ceilings. At the time of the survey, some of these walls and ceilings had collapsed or been demolished. KCI recommends an additional investigation prior to abatement design to update the location and quantity of walls and ceilings that will require demolition, as well as the quantity of plaster and other debris that has become contaminated with asbestos-containing pipe insulation. The quantities in the following table are based on current conditions, which are expected to continue to deteriorate with time.

Portions of Building 4 may be structurally unsound. KCI recommends that the structure be assessed prior to abatement to determine if abatement can performed safely.

Table 4 – Summary of Findings in McCarren Hall (Building 4)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Plaster – Skim	Throughout	GD4-4, 8, 11	NAD	NA	NA	NA	NA
Plaster – Base	Throughout	GD4-5, 9, 12	NAD	NA	NA	NA	NA
Sheet Flooring – Grey	North End of 1st Floor Hall	GD4-7	NAD	NA	NA	NA	NA
Roof Sheathing	Roof	GD4-10	NAD	NA	NA	NA	NA
Blown Insulation	Attic	GD4-13	NAD	NA	NA	NA	NA
Tectum Roofing	Roof	GD4-14	NAD	NA	NA	NA	NA
Fire Door Insulation	Basement	GD4-19	NAD	NA	NA	NA	NA
Tar Paper – Black	Exterior	GD4-20	NAD	NA	NA	NA	NA
Tank Insulation - White	Basement	GD4-21	NAD	NA	NA	NA	NA
Siding – Grey	Dormers	Not Sampled	Assumed Positive	Y	1,000 SF	$1,500	$1,500
9" X 9" Floor Tile (All Colors/Patterns)	Throughout	GD4-1, 3A, 16	2-3% C	Y	600 SF	$4,800	$4,200
Floor Tile Mastic – Black	Throughout	GD4-2, 3B, 17	NAD	N			
Pipe Insulation – Grey	Throughout	GD4-6	50% C	Y	6,000 LF	$105,000	$84,000
Pipe Fitting Insulation	Basement	GD4-18	60% C	Y	1,000 EA		
Duct Insulation – White	Attic	GD4-15	30% C	Y	250 SF	$5,000	$5,000
Contaminated Debris	Throughout	Not Sampled	Assumed	Y	10,000 SF (65 Tons)	$28,200	$28,200
Selective Demolition (plaster walls, ceilings, terracotta block walls)					6,000 SF	$12,000	$12,000
TOTAL ESTIMATED ABATEMENT COST						**$156,500**	**$134,900**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; NAD – No Asbestos Detected
SF – Square Feet; LF – Linear Feet; EA – Each

Building 5 – West Duplex

Building 5 contains asbestos-containing pipe insulation within plaster walls and above plaster ceilings. At the time of the survey, some of these walls and ceilings had collapsed or been demolished. KCI recommends an additional investigation prior to abatement design to update the location and quantity of walls and ceilings that will require demolition, as well as the quantity of plaster and other debris that has become contaminated with asbestos-containing pipe insulation. The quantities in the following table are based on current conditions, which are expected to continue to deteriorate with time. The basement of Building 5 was not accessible but was assumed to contain the same materials as Building 8, since the two buildings are identical.

Table 5 – Summary of Findings in West Duplex (Building 5)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Rock Lathe	Throughout	GD5-1	NAD	NA	NA	NA	NA
Plaster – Skim	Throughout	GD5-2, 8	NAD	NA	NA	NA	NA
Plaster – Base	Throughout	GD5-3, 9	NAD	NA	NA	NA	NA
Window Glazing	Throughout	GD5-10	NAD	NA	NA	NA	NA
Wall Sheathing	Throughout	GD5-4	NAD	NA	NA	NA	NA
Siding – Grey	Throughout	Not Sampled	Assumed Positive	Y	75 SF	$150	$150
Pipe Insulation – White	Throughout	GD5-5	27% C, 3% Croc	Y	550 LF	$10,875	$8,700
Fitting Insulation	Throughout	Not Sampled	Assumed Positive	Y	175 EA		
Tank Insulation	Basement	Not Sampled	Assumed Positive	Y	50 SF	$850	$600
Floor Tile (All Colors/Patterns)	Kitchens	GD5-6	2% C	Y	1,000 SF	$8,000	$7,000
Floor Tile Mastic	Beneath GD5-6	GD5-7	2% C	Y			
Contaminated Debris	Throughout	NA	NA	Y	750 SF (1 Ton)	$1,000	$1,000
Selective Demolition (plaster walls, ceilings, terracotta block walls)					800 SF	$1,600	$1,600
					TOTAL ESTIMATED ABATEMENT COST	**$22,475**	**$19,050**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; Croc – Crocidolite Asbestos NAD – No Asbestos Detected
SF – Square Feet; LF – Linear Feet; EA – Each

Building 8 – East Duplex

Building 8 contains asbestos-containing pipe insulation within plaster walls and above plaster ceilings. At the time of the survey, some of these walls and ceilings had collapsed or been demolished. KCI recommends an additional investigation prior to abatement design to update the location and quantity of walls and ceilings that will require demolition, as well as the quantity of plaster and other debris that has become contaminated with asbestos-containing pipe insulation. The quantities in the following table are based on current conditions, which are expected to continue to deteriorate with time.

Table 6 – Summary of Findings in East Duplex (Building 8)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Pipe Insulation – Grey	W. Basement	GD8-2	NAD	NA	NA	NA	NA
White Coating over Fiberglass Tank Insulation	W. Basement	GD8-3	NAD	NA	NA	NA	NA
Plaster – Skim	Throughout	GD8-5, 8	NAD	NA	NA	NA	NA
Plaster – Base	Throughout	GD8-6, 9	NAD	NA	NA	NA	NA
Rock Lathe	Throughout	GD8-7, 10	NAD	NA	NA	NA	NA
Wall Sheathing	E. 2nd Floor	GD8-11	NAD	NA	NA	NA	NA
Siding – Grey	Throughout	Not Sampled	Assumed Positive	Y	75 SF	$150	$150
Floor Tile (All Colors/Patterns)	Kitchens	GD8-12A, 14	<1-2% C	Y	1,000 SF	$8,000	$7,000
Floor Tile Mastic	Beneath GD5-6	GD8-12B, 15	3-4% C	Y			
Pipe Insulation – White	W. Basement	GD8-1	20% C	Y	550 LF	$10,875	$8,700
Fitting Insulation	W. Basement	GD8-4	10% C	Y	175 EA		
Contaminated Debris	Throughout	NA	NA	Y	750 SF (1 Ton)	$1,000	$1,000
Selective Demolition (plaster walls, ceilings, terracotta block walls)					800 SF	$1,600	$1,600
TOTAL ESTIMATED ABATEMENT COST						**$21,625**	**$18,450**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; NAD – No Asbestos Detected
SF – Square Feet; LF – Linear Feet; EA – Each

Building 9 – Adult Hospital

Building 9 contains asbestos-containing pipe insulation within plaster walls and above plaster ceilings. At the time of the survey, some of these walls and ceilings had collapsed or been demolished. KCI recommends an additional investigation prior to abatement design to update the location and quantity of walls and ceilings that will require demolition, as well as the quantity of plaster and other debris that has become contaminated with asbestos-containing pipe insulation. The quantities in the following table are based on current conditions, which are expected to continue to deteriorate with time.

Table 7 – Summary of Findings in Adult Hospital (Building 9)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Plaster – Skim	Throughout	GD9-3, 34, 36, 45	NAD	NA	NA	NA	NA
Plaster – Base	Throughout	GD9-4, 35, 37, 46	NAD	NA	NA	NA	NA
Ornamental Plaster	Auditorium	GD9-77	NAD	NA	NA	NA	NA
2'x4' Ceiling Tile – White	Throughout	GD9-5	NAD	NA	NA	NA	NA
1'x1' Ceiling Tile – Worm and Dot	Throughout	GD9-6	NAD	NA	NA	NA	NA
1x1' Ceiling Tile W/ Evenly Distributed Holes	Throughout	GD9-17	NAD	NA	NA	NA	NA
Brown Mastic Dot	1st Floor S. End	GD9-7, 18	NAD	NA	NA	NA	NA
Pipe Insulation – Brown	1st Floor S. End	GD9-14	NAD	NA	NA	NA	NA
Pipe Insulation – Brown	1st Floor S. End	GD9-14	NAD	NA	NA	NA	NA
1x1' Ceiling Tile W/ Holes	1st Floor Center	GD9-17	NAD	NA	NA	NA	NA
Mastic Dot – Brown	1st Floor Center	GD9-18	NAD	NA	NA	NA	NA
Cement Partition Wall	1st Floor N. Side Balcony	GD9-25	NAD	NA	NA	NA	NA
Blown Insulation	1st Floor N. End	GD9-28, 47, 60	NAD	NA	NA	NA	NA
Pipe Wrap – Black	1st Floor N. End	GD9-29	NAD	NA	NA	NA	NA
Window Glazing	Throughout	GD9-32, 39	NAD	NA	NA	NA	NA
Fire Door Insulation	Throughout	GD9-40	NAD	NA	NA	NA	NA
Pipe Insulation – Cork	Throughout	GD9-44	NAD	NA	NA	NA	NA
Sheet Flooring – Green Vinyl	4th Floor North	GD9-48A	NAD	NA	NA	NA	NA
Terrazzo Floor – All Colors	Throughout	GD9-50, 61	NAD	NA	NA	NA	NA
Roof Sheathing	Attic	GD9-54	NAD	NA	NA	NA	NA
Black Felt Over Fiberglass Duct Ins	Attic	GD9-55	NAD	NA	NA	NA	NA
Insulation Under Ventilation Unit	5th Floor	GD9-62	NAD	NA	NA	NA	NA
Material Inside Exhaust Duct	Basement Central	GD9-64	NAD	NA	NA	NA	NA
Refrigerator Door Gasket	Basement Central	GD9-67	NAD	NA	NA	NA	NA

Table 7 – Summary of Findings in Adult Hospital (Building 9)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Drywall Inside Acoustical Booth	Basement North	GD9-74	NAD	NA	NA	NA	NA
Roofing Materials	Roof	Not Sampled	Assumed Positive	N	25,000 SF	$75,000	$0
All Floor Tile (All Colors/Patterns) and Sheet Flooring	Throughout	GD9-1, 8, 10, 11, 15, 20, 22, 31A, 33, 41, 43, 48, 51, 68	NAD – 60% C	Y	120,000 SF	$960,000	$840,000
Floor Tile Mastic – Black	1st Floor S. End	GD9-2, 9, 10B, 12, 16, 21, 31B, 42, 49, 52, 69	NAD – 5% C	Y			
Pipe Insulation – White, Grey	Throughout	GD9-13, 26, 27, 66	15-65% C, 2-5% Croc	Y	25,000 LF	$465,000	$372,000
Pipe Fitting Insulation	3rd Floor Center	GD9-38, 73	40-60% C	Y	6,000 EA		
1'x1' Ceiling Tile W/ Different Sized Holes	1st Floor Center Section, Basement South End	GD9-19	2% C, 3% A	Y	1,000 SF	$5,200	$3,900
2x4 Ceiling Tile – Green	1st Floor Kitchen	GD9-23	2% C	Y	300 SF		
Vibration Dampener – Grey	Throughout	GD9-30, 59	40% C	N	12 EA	$100	$0
Black Sealant On Duct Insulation Wrap	Attic	GD9-56	3% C	N	760 SF	$7,600	$0
White Coating On Duct Insulation	Attic	GD9-57, 58	45% C, 60% C	Y	400 SF	$6,000	$4,800
Transite Hoods	5th Floor Labs	GD9-63	15% C	Y	75 SF	$450	$450
Conduit Lining	Basement Kitchen Area	GD9-65	65% C	Y	100 SF	$1,000	$600
Tank Insulation	Sub-Basement	GD9-70, 72	20-65% C, 10% A	Y	420 SF	$7,140	$5,040
Acoustical Surfacing On CMU Wall	Basement Soundproof Room	GD9-71, 75	NAD, 2% C	Y	1,500 SF	$10,000	$8,000
Insulation Pin Mastic	Basement Soundproof Room	GD9-76	20% C	N	500 SF	$500	$0
Contaminated Debris	Throughout	NA	NA	Y	100,000 SF (500 Tons)	$240,000	$240,000
Selective Demolition (plaster walls, ceilings, terracotta block walls)					150,000 SF	$300,000	$300,000
					TOTAL ESTIMATED ABATEMENT COST	**$2,077,990**	**$1,774,790**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbetsos; Croc – Crocidolite Asbestos; A – Amosite Asbestos; NAD – No Asbestos Detected
SF – Square Feet; LF – Linear Feet; EA – Each

Building 10 – Warehouse and Garage

Building 10 contains steam pipes that pass below the concrete slab. KCI has assumed that these pipes have asbestos-containing insulation; additional investigation may be warranted prior to abatement design to determine if asbestos-containing insulation is present.

Table 8 – Summary of Findings in the Warehouse and Garage (Building 10)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Air Conditioning Base	SE Shop	GD10-1	NAD	NA	NA	NA	NA
Brown Mastic Dot	Office	GD10-6	NAD	NA	NA	NA	NA
1'x1' Ceiling Tile	Office	GD10-7	NAD	NA	NA	NA	NA
Plaster – Skim	Throughout	GD10-11	NAD	NA	NA	NA	NA
Plaster – Base	Throughout	GD10-12	NAD	NA	NA	NA	NA
Ceiling Plaster	Bathroom	GD10-13	NAD	NA	NA	NA	NA
White Coating over Fiberglass Tank Insulation	Garage	GD10-15	NAD	NA	NA	NA	NA
Grey Coating over Fiberglass Tank Insulation	Garage	GD10-16	NAD	NA	NA	NA	NA
Fire Door Insulation	Throughout	GD10-18	NAD	NA	NA	NA	NA
Roofing Materials	Roof	Not Sampled	Assumed Positive	N	11,500 SF	$34,500	$0
Window Glazing	Throughout	GD10-17	2% C	Y	12 EA	$800	$800
Floor Tile (All Colors/Patterns)	SE Shop	GD10-2, 8	2-3% C	Y	2,300 SF	$18,400	$16,100
Floor Tile Mastic – Black	SE Shop	GD10-3, 9	2-3% C	Y			
Pipe Insulation – White	Throughout	GD10-4, 14	25-30% C, 10% A, 5% Croc	Y	500 LF	$9,300	$7,440
Fitting Insulation	Throughout	GD10-5	40% A	Y	120 EA		
2'x4' Ceiling Tile	Office	GD10-10	2% C	Y	1,000 SF	$3,000	$3,000
Selective Demolition (concrete floor)					200 SF	$1,500	$1,500
TOTAL ESTIMATED ABATEMENT COST						**$67,500**	**$28,840**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; Croc – Crocidolite Asbestos; A – Amosite Asbestos; NAD – No Asbestos Detected
SF – Square Feet; LF – Linear Feet; EA – Each

Building 11 – Heating Plant

Building 11 has a steel grate floor. The area below this floor is flooded. Some pipes are visible under the water, but it was not possible to determine the extent to which these pipes are insulated with presumed asbestos-containing insulation. Prior to abatement design, KCI recommends that the water be pumped out of the space below the floor to allow for the identification and quantification of asbestos-containing materials.

Table 9 – Summary of Findings in the Heating Plant (Building 11)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Chimney Brink	Chimney	GD11-18	NAD	NA	NA	NA	NA
Chimney Mortar	Chimney	GD11-19	NAD	NA	NA	NA	NA
Pipe Insulation Wrap	Above E. Boiler	GD11-4	NAD	NA	NA	NA	NA
Interior Boiler Mortar	Middle Boiler	GD11-11	NAD	NA	NA	NA	NA
Roofing Materials	Roof	Not Sampled	Assumed Positive	N	27,000 SF	$34,500	$0
Transite Panels	Windows Throughout	GD11-20	15% C	Y	500 SF	$1,000	$1,000
Stack Insulation	Throughout	GD11-1, 8, 12	10-65% C, 20% A	Y	170 SF	$3,400	$2,550
Boiler Insulation	All Boilers	GD11-2, 10	2% A, 60% C	Y	100 SF	$2,000	$1,500
Tank Insulation	Tanks	GD11-5, 6	65% C	Y	300 SF	$5,000	$3,600
9" X 9" Floor Tile (All Color/Patterns)	Throughout	GD11-13, 15A	2-3% C	Y	275 SF	$2,200	$1,975
Floor Tile Mastic – Black	Throughout	GD11-14, 15B	<1%C, 2% C	Y			
Pipe Insulation – White	Throughout	GD11-16, 17	25% C, 5% Croc, 10% C, 20% A	Y	2,000 LF	$33,000	$26,400
Pipe Fitting Insulation	Throughout	GD11-3, 7, 9	2% A, 20% C	Y	200 EA		
Water to be pumped out, filtered and disposed on site					200,000 Gallons	$20,000	$20,000
TOTAL ESTIMATED ABATEMENT COST						**$101,100**	**$57,025**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; Croc – Crocidolite Asbestos; A – Amosite Asbestos; NAD – No Asbestos Detected
SF – Square Feet; LF – Linear Feet; EA – Each

Building 14 – Water Softening House:

Table 10 – Summary of Findings in the Water Softening House (Building 14)							
Material Description	**Location**	**Sample Numbers**	**Sample Results**	**RACM**	**Estimated Quantity**	**Abatement Cost**	
						Renovation	**Demolition**
Window Glazing	Window	GD14-1	2.1% C	Y	7 EA	$500	$500
Roofing Materials	Roof	Not Sampled	Assumed Positive	N	1,200 SF	$3,600	$0
					TOTAL ESTIMATED ABATEMENT COST	**$4,100**	**$500**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos
EA – Each

Building 15 – Pump House:

Table 11 – Summary of Findings in the Pump House (Building 15)							
Material Description	**Location**	**Sample Numbers**	**Sample Results**	**RACM**	**Estimated Quantity**	**Abatement Cost**	
						Renovation	**Demolition**
Window Glazing	Window	GD15-1	NAD	NA	NA	NA	NA
Roofing Materials	Roof	Not Sampled	Assumed Positive	N	2,500 SF	$7,500	$0
					TOTAL ESTIMATED ABATEMENT COST	**$7,500**	**$0**

RACM – Regulated Asbestos-Containing Material; NAD – No Asbestos Detected

Building 16 – Finucane Hall

Building 16 contains asbestos-containing pipe insulation within plaster walls and above plaster ceilings. At the time of the survey, some of these walls and ceilings had collapsed or been demolished. KCI recommends an additional investigation prior to abatement design to update the location and quantity of walls and ceilings that will require demolition, as well as the quantity of plaster and other debris that has become contaminated with asbestos-containing pipe insulation. The quantities in the following table are based on current conditions, which are expected to continue to deteriorate with time.

Table 12 – Summary of Findings in the Finucane Hall (Building 16)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Plaster – Skim	Throughout	GD16-8, 16	NAD	NA	NA	NA	NA
Plaster – Base	Throughout	GD16-9, 17	NAD	NA	NA	NA	NA
Black Felt Beneath Tile	1st Floor	GD16-12	NAD	NA	NA	NA	NA
Attic Insulation	3rd Floor	GD16-13	NAD	NA	NA	NA	NA
Concrete Ceiling	3rd Floor Solarium	GD16-14	NAD	NA	NA	NA	NA
Window Glazing	Throughout	GD16-15	NAD	NA	NA	NA	NA
Blown Insulation	3rd Floor Back Hallway	GD16-18	NAD	NA	NA	NA	NA
Floor Tile (All Colors/Patterns)	Throughout	GD16-1, 3, 10, 19A	2% C	Y	12,000 SF	$96,000	$84,000
Floor Tile Mastic – Black	Throughout	GD16-2, 4, 11, 19B	<1%-2% C	Y			
Pipe Insulation (All)	Throughout	GD16-5, 6A, 6B	2-20% C	Y	5,000 LF	$95,000	$75,000
Pipe Fitting Insulation	1st Floor	GD16-7	60% C	Y	1,270 EA		
Tank Insulation	Basement	GD16-20, 21	10-60% C, 10% A	Y	100 SF	$1,700	$1,200
Roofing Materials	Roof	Not Sampled	Assumed Positive	N	6,640 SF	$20,000	$0
Contaminated Debris	Throughout	NA	NA	Y	5,000 SF (50 Tons)	$19,000	$19,000
Selective Demolition (plaster walls, ceilings, terracotta block walls)					3,000 SF	$6,000	$6,000
TOTAL ESTIMATED ABATEMENT COST						**$237,700**	**$185,200**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; A – Amosite Asbestos; NAD – No Asbestos Detected
SF – Square Feet; LF – Linear Feet; EA – Each

Building 17 – Laundry

Table 13 – Summary of Findings in the Laundry (Building 17)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Stack Insulation Wrap	Little Dryer	GD17-1	NAD	NA	NA	NA	NA
Black Felt Over Stack Insulation	Little Dryer	GD17-2	NAD	NA	NA	NA	NA
Window Glazing	Throughout	GD17-6, 11	NAD	NA	NA	NA	NA
Ceiling Plaster	Bathroom	GD17-7	NAD	NA	NA	NA	NA
Drywall	Offices	GD17-9	NAD	NA	NA	NA	NA
Grey Stack Insulation	Big Dryer	GD17-3	<1% C	NA	NA	NA	NA
Joint Compound	Offices	GD17-8	4% C	Y	175 SF	$2,500	$1,800
Pipe Insulation – White	Throughout	GD17-5	5% C, 15% A	Y	1,500 LF	$26,250	$21,000
Pipe Fitting Insulation	Throughout	GD17-4, 10	40-60% C	Y	250 EA		
Roofing Materials	Roof	Not Sampled	Assumed Positive	N	750 SF	$2,250	$0
Contaminated Debris	Throughout	NA	NA	Y	3,000 SF (1 Ton)	$3,280	$3,280
					TOTAL ESTIMATED ABATEMENT COST	**$34,280**	**$26,080**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; A – Amosite Asbestos; NAD – No Asbestos Detected
SF – Square Feet; LF – Linear Feet; EA – Each

Building 18 – Gibson Hall

Building 9 contains asbestos-containing pipe insulation within plaster walls and above plaster ceilings. At the time of the survey, some of these walls and ceilings had collapsed or been demolished. KCI recommends an additional investigation prior to abatement design to update the location and quantity of walls and ceilings that will require demolition, as well as the quantity of plaster and other debris that has become contaminated with asbestos-containing pipe insulation. The quantities in the following table are based on current conditions, which are expected to continue to deteriorate with time.

Table 14 – Summary of Findings in Gibson Hall (Building 18)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Plaster – Skim	Throughout	GD18-1	NAD	NA	NA	NA	NA
Plaster – Base	Throughout	GD18-2	NAD	NA	NA	NA	NA
Blown Insulation	Above Ceilings	GD18-3	NAD	NA	NA	NA	NA
Roofing Materials	Roof	Not Sampled	Assumed Positive	N	2,500 SF	$7,500	$0
Pipe Insulation	Throughout	GD18- 4, 5, 6	5-10% C, 2% Croc	Y	500 LF	$7,800	$6,240
Pipe Fitting Insulation	Throughout	Not Sampled	Assumed	Y	20 EA		
Contaminated Debris	Throughout	NA	NA	Y	5,000 SF (50 Tons)	$19,000	$19,000
Selective Demolition (plaster walls, ceilings, terracotta block walls)					500 SF	$1,000	$1,000
					TOTAL ESTIMATED ABATEMENT COST	**$35,300**	**$26,240**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; Croc – Crocidolite Asbestos; NAD – No Asbestos Detected
SF – Square Feet; LF – Linear Feet; EA – Each

Building 19 – Hot House

Building 19 has collapsed. KCI surveyed the debris pile and determined that window glazing in the debris pile contained asbestos. KCI recommends that the debris pile be removed as asbestos-containing debris.

Table 15 – Summary of Findings in the Hot House (Building 19)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Window Glazing	Throughout Debris Pile	19-1	2% C	Y	Unknown	NA	NA
Contaminated Debris	Throughout	NA	NA	Y	300 SF (1 Ton)	NA	$2,000
					TOTAL ESTIMATED ABATEMENT COST	NA	**$2,000**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos;
SF – Square Feet

Building 20 – Apartment 1

Building 20 has collapsed. KCI has assumed that Building 20 contained the same asbestos-containing materials that were found in Building 21, which is identical. KCI recommends that all of the debris from Building 20 be removed as asbestos-containing materials.

Table 16 – Summary of Findings in Apartment 1 (Building 20)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Rock Lathe	Debris Pile	GD20-1	NAD	NA	NA	NA	NA
Plaster – Skim	Debris Pile	GD20-2	NAD	NA	NA	NA	NA
Plaster – Base	Debris Pile	GD20-3	NAD	NA	NA	NA	NA
Contaminated Debris	Throughout	NA	NA	Y	1500 CY (1,000 Tons)	NA	$170,000
					TOTAL ESTIMATED ABATEMENT COST	NA	**$170,000**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; NAD – No Asbestos Detected
CY – Cubic Yards

Building 21 – Apartment 2

The floors in portions of Building 21 have collapsed. At the time of the survey, KCI believed that asbestos in Building 21 could be safely abated, but KCI recommends an additional investigation prior to abatement design to determine if the building is structurally sound. Building 21 contains asbestos-containing pipe insulation within plaster walls and above plaster ceilings. At the time of the survey, some of these walls and ceilings had collapsed or been demolished. KCI recommends an additional investigation prior to abatement design to update the location and quantity of walls and ceilings that will require demolition, as well as the quantity of plaster and other debris that has become contaminated with asbestos-containing pipe insulation. The quantities in the following table are based on current conditions, which are expected to continue to deteriorate with time.

Table 17 – Summary of Findings in Apartment 2 (Building 21)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Pipe Insulation – Brown	2nd Floor	GD21-3	NAD	NA	NA	NA	NA
Plaster – Skim	Throughout	GD21-4, 9	NAD	NA	NA	NA	NA
Plaster – Base	Throughout	GD21-5, 10	NAD	NA	NA	NA	NA
Rock Lathe	2nd Floor	GD21-6	NAD	NA	NA	NA	NA
Window Glazing	Throughout	GD21-7	NAD	NA	NA	NA	NA
Surfacing On Ceiling	Basement	GD21-12	NAD	NA	NA	NA	NA
Floor Tile Mastic – Black	2nd Floor Balcony	GD21-16	NAD	NA	NA	NA	NA
2x4 Ceiling Tile	2nd Floor Balcony	GD21-17	NAD	NA	NA	NA	NA
Black Cove Base	2nd Floor Balcony	GD21-18	NAD	NA	NA	NA	NA
Cove Base Mastic	2nd Floor Balcony	GD21-19	NAD	NA	NA	NA	NA
Surfacing On Stairwell Wall	2nd Floor Balcony	GD21-20, 21	NAD	NA	NA	NA	NA
Pipe Insulation – White and Grey	Throughout	GD21-2, 13	30-60% C	Y	1500 LF	$27,750	$22,200
Pipe Fitting Insulation	Throughout	GD21-1, 14	60% C	Y	350 EA		
Fire Door Insulation	Throughout	GD21-8	40% C	Y	6 EA	$500	$500
Tank Insulation	Basement	GD21-11	20% C, 10% A	Y	150 SF	$2,250	$1,800
9" Floor Tile – Tan	2nd Floor Balcony	GD21-15	5% C	Y	1,500 SF	$12,000	$10,500
Roofing Materials	Roof	Not Sampled	Assumed Positive	N	1,800 SF	$5,400	$0
Contaminated Debris	Throughout	NA	NA	Y	3,000 SF (2 Tons)	$3,560	$3,560
Selective Demolition (plaster walls and ceilings)						$4,000	$4,000
TOTAL ESTIMATED ABATEMENT COST						**$55,460**	**$42,560**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; A – Amosite Asbestos; NAD – No Asbestos Detected
CY – Cubic Yards

Building 22 – Paint Shop

Table 18 – Summary of Findings in Paint Shop (Building 22)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Grey Pipe Wrap	Paint Booth Room	GD22-2	NAD	NA	NA	NA	NA
Pipe Insulation – Brown	Paint Booth Room	GD22-3	NAD	NA	NA	NA	NA
Pipe Fitting Insulation	Paint Booth Room	GD22-4	20% C, 5% A, 5% Croc	Y	10 EA	$1,000	$500
Transite Ceiling	Throughout	GD22-1	15% C	Y	900 SF	$3,000	$2,500
Window Glazing	Throughout	GD22-5	5.3% C	Y	10 EA	$750	$750
Roofing Materials	Roof	Not Sampled	Assumed Positive	N	900 SF	$2,700	$0
					TOTAL ESTIMATED ABATEMENT COST	**$7,450**	**$3,750**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; A – Amosite Asbestos; NAD – No Asbestos Detected
CY – Cubic Yards

Building 23 - Incinerator

Table 19 – Summary of Findings in the Incinerator (Building 23)

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Fire Brick	Chimney	GD23-7, 8	NAD	NA	NA	NA	NA
Incinerator Door	Incinerator Door	GD23-1	NAD	NA	NA	NA	NA
Fire Brick	Top of incinerator	GD23-2	NAD	NA	NA	NA	NA
Fire Brick	Wall of incinerator at top	GD23-3	NAD	NA	NA	NA	NA
Mortar	Wall of incinerator at top	GD23-4	NAD	NA	NA	NA	NA
Corrugated Siding	Wall of building	GD23-5	20% C	Y	1,000 SF	$2,000	$2,000
Transite panels	Door of building	GD23-6	20% C	Y			
					TOTAL ESTIMATED ABATEMENT COST	**$2,000**	**$2,000**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; NAD – No Asbestos Detected
SF – Square Feet

Steam Tunnels

KCI identified pipes with asbestos-containing insulation within steam tunnels connecting Buildings 1, 2, 3, 4, 9 and 18 to the central heating plant. KCI has estimated the quantities of pipe insulation based on the assumed paths of these tunnels, which are indicated in the site plan in Appendix A. For the purposes of estimating the quantities, KCI has assumed that two pipes are present in all of the tunnels.

Table 20 – Summary of Findings in the Steam Tunnels

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Pipe Insulation	Throughout Tunnels	Not Sampled	Assumed Positive	Y	7,000 LF	NA	$150,000
Pipe Fitting Insulation	Throughout Tunnels	Not Sampled	Assumed Positive	Y	1,000 EA	NA	
					TOTAL ESTIMATED ABATEMENT COST	NA	**$150,000**

RACM – Regulated Asbestos-Containing Material; C – Chrysotile Asbestos; NAD – No Asbestos Detected
LF – Linear Feet; EA – Each

Buried Steam Pipes

KCI identified buried steam pipes that connect Buildings 5, 8, 10, 16, 17, 20, 21 and 22 to the central Heating Plant. KCI was not able to observe these pipes, but has assumed that some asbestos-containing material is associated with these pipes. Prior to abatement design, KCI recommends an additional investigation to excavate at a representative number of locations to determine if asbestos-containing materials are present on the buried steam pipes. KCI has also made conservative assumptions about the locations of buried steam pipes, indicated in the site sketch included as Appendix A. KCI recommends additional investigation to identify locations and quantities of buried steam pipes.

Table 21 – Summary of Findings for Buried Steam Pipes

Material Description	Location	Sample Numbers	Sample Results	RACM	Estimated Quantity	Abatement Cost	
						Renovation	Demolition
Presumed Asbestos-Containing Materials	On Buried Steam Pipes	Not Sampled	Assumed Positive	Y	6,000 LF (trench) 12,000 LF (pipe)	NA	$250,000
					TOTAL ESTIMATED ABATEMENT COST	NA	$250,000

LF – Linear Feet

4.0 Recommendations

Prior to renovation or demolition, KCI recommends an additional investigation to:

- Collect additional bulk samples in accordance with AHERA sampling protocols;
- Refine the scope of abatement, based on conditions found at the time of abatement;
- Further investigate buried steam pipes to determine if asbestos-containing materials are present, to identify the type of asbestos-containing materials, and to determine the quantity and location of asbestos-containing materials on buried steam pipes;
- Determine location and quantities of asbestos-contaminated debris;
- Identify building components that will require demolition in order to access hidden asbestos-containing materials;
- Assess buildings for structural integrity and determine if asbestos-abatement can proceed safely.

The information obtained from this additional investigation should be used to prepare asbestos-abatement design and contract documents.

KCI recommends that all RACM be removed from buildings prior to demolition. Additionally, KCI recommends that all asbestos-containing materials that will be disturbed during any proposed renovations be removed. All asbestos abatement should be performed by a licensed asbestos abatement contractor in accordance with applicable Federal, State, and local regulations.

5.0 Cost Estimate

KCI prepared budgetary cost estimates for asbestos abatement. The cost estimates are based on conditions at the time of the survey and are likely to change as the buildings deteriorate. KCI recommends additional investigations prior to abatement design to assess current conditions and to further refine the locations and quantities of asbestos-containing materials. KCI expects that these additional investigations may impact the estimated cost of the project.

KCI estimates the following costs for abatement of asbestos-containing materials, based on site conditions at the time of the survey:

Table 22: Summary of Cost Estimates

Number	Building Name	Abatement Cost if Building is to be Renovated	Abatement Cost if Building is to be Demolished
1	Capper Hall	$64,700	$48,600
2	Children's Hospital	$959,840	$768,890
3	Peabody Hall	$36,150	$26,840
4	McCarren Hall	$156,500	$134,900
5	Duplex (West)	$22,475	$19,050
8	Duplex (East)	$21,625	$18,450
9	Adult Hospital	$2,077,990	$1,774,790
10	Warehouse and Garage	$67,500	$28,840
11	Heating Plant	$101,100	$57,025
14	Water Softening House	$4,100	$500
15	Pump House	$7,500	$0
16	Finucane Hall	$237,700	$185,200
17	Laundry	$34,280	$26,080

Table 22: Summary of Cost Estimates			
Number	**Building Name**	**Abatement Cost if Building is to be Renovated**	**Abatement Cost if Building is to be Demolished**
18	Gibson Hall	$35,300	$26,240
19	Hot House	NA	$2,000
20	Apartment 1	NA	$170,000
21	Apartment 2	$55,460	$42,560
22	Paint Shop	$7,450	$3,750
23	Incinerator	$2,000	$2,000
NA	Steam Tunnels	NA	$150,000
NA	Buried Pipes	NA	$250,000
Additional Investigation and Remediation Design		$80,000	$60,000
Post-Award Professional Services		$125,000	$60,000
15% Contingency		$700,300	$578,357
Total		**$5,368,971**	**$4,434,072**

6.0 Disclaimer

This report has been prepared by KCI Technologies, Inc. exclusively for our Client and their Authorized Representatives. The findings and recommendations presented are based upon discussions with the Client of the present conditions, and may not necessarily indicate future conditions. KCI implies no warranty to the accuracy of information provided them by the Client or outside agents and transmitted herein. The locations and conditions of hazardous materials included in the report are based on the site observations performed during the survey. KCI's investigation was performed in accordance with KCI's proposal, dated October 12, 2012.

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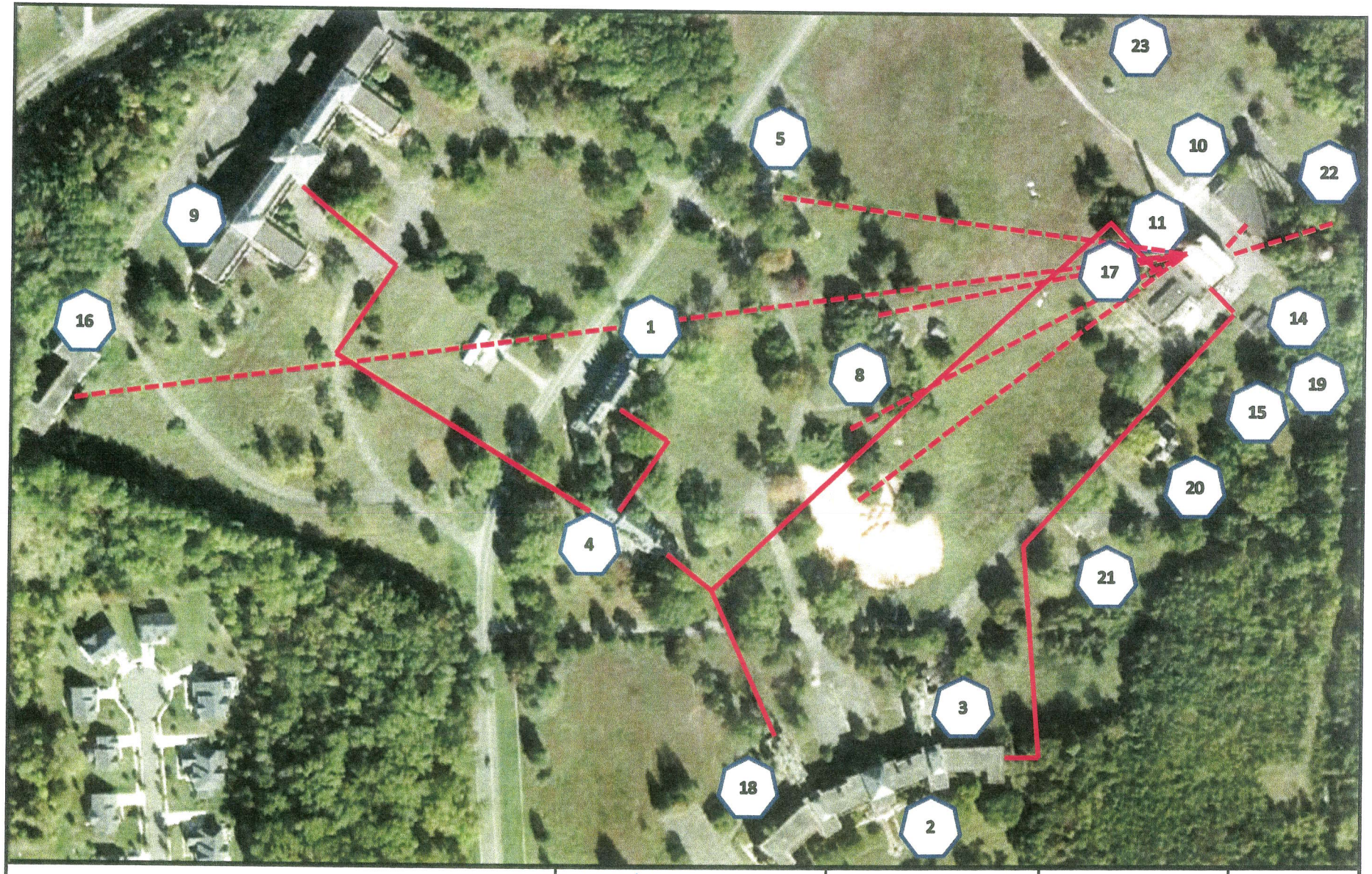
APPENDIX A:
SITE PLAN



Approximate Location of Steam Tunnels

Approximate Location of Buried Pipe

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410)316-7800
FAX: (410)316-7935

DATE: February 8, 2012	Glenn Dale Hospital *General Site Plan*	DRAWING	
SCALE: Not to Scale		104	
DRAWN BY: JJ		PHASE	
DGS # AO-008-009-010		N/A	

Building Key

Building Number	Building Name
1	Capper Hall
2	Children's Hospital
3	Peabody Hall
4	McCarren Hall
5	Duplex (West)
8	Duplex (East)
9	Adult Hospital
10	Warehouse and Garage
11	Heating Plant
14	Water Treatment Building
15	Pump House
16	Finucane Hall
17	Laundry
18	Gibson Hall
19	Hot House
20	Apartment 1
21	Apartment 2
22	Paint Shop
23	Incinerator

APPENDIX B:
LABORATORY CERTIFICATES OF ANALYSIS

AMA Analytical Services, Inc.

A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NVLAP 101143-0

Client:	KCI Technologies, Inc.	**Job Name:**	Glenn Dale	**Chain Of Custody:**	222326
Address:	936 Ridgebrook Road	**Job Location:**	Not Provided	**Date Analyzed:**	1/17/2013
	Sparks, Maryland 21152	**Job Number:**	27122989	**Person Submitting:**	Josh Julius
		P.O. Number:	Not Provided		

Attention: Josh Julius

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
13028190	GD1-1	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028191	GD1-2	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	SW	
13028192	GD1-3	NAD	--	--	--	--	100	--	TR	--	--	--	IN	Off-White	Homogeneous	SW	
13028193	GD1-4	NAD	--	--	--	--	--	--	10	--	--	90	SF	Multi	Homogeneous	SW	
13028194	GD1-5	NAD	--	--	--	--	--	--	TR	--	--	100	MS	Black	Homogeneous	SW	
13028195	GD1-6	NAD	--	--	--	--	--	--	60	--	--	40	Wire IN	Black	Homogeneous	SW	
13028196	GD1-7	5	5	--	--	--	--	--	--	--	--	95	PL	White	Homogeneous	SW	
13028197	GD1-8	5	5	--	--	--	--	--	50	5	--	40	PI	Gray	Homogeneous	SW	
13028198	GD1-9	65	65	--	--	--	--	--	--	--	--	35	Fitting	White	Homogeneous	SW	
13028199	GD2-1	2	2	--	--	--	--	--	--	--	--	98	FT	Brown	Homogeneous	SW	
13028200	GD2-2	NAD	--	--	--	--	--	--	--	--	--	100	MS	Yellow	Homogeneous	SW	
13028201	GD2-3	NAD	--	--	--	--	--	--	10	--	--	90	SF	Black	Homogeneous	SW	
13028202	GD2-4	40	40	--	--	--	--	--	--	--	--	60	PI	White	Homogeneous	SW	
13028203	GD2-5	NAD	--	--	--	--	--	--	--	--	--	100	FT	Green	Homogeneous	SW	
13028204	GD2-6	2	2	--	--	--	--	--	--	--	--	98	FT	Tan	Homogeneous	SW	

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13028205	GD2-7	2	2	--	--	--	--	--	--	--	--	98	MS	Black	Homogeneous	SW	
13028206	GD2-8	NAD	--	--	--	--	--	--	5	--	--	95	FI	Off-White	Homogeneous	SW	
13028207	GD2-9	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028208	GD2-10	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	SW	
13028209	GD2-11	NAD	--	--	--	--	--	--	--	--	--	100	WG	Gray	Homogeneous	SW	
13028210	GD2-12	NAD	--	--	--	--	--	--	60	--	--	40	CT	Brown	Homogeneous	SW	
13028211	GD2-13	NAD	--	--	--	--	--	--	TR	--	--	100	MS	Brown	Homogeneous	SW	
13028212	GD2-14	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028213	GD2-15	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	SW	
13028214	GD2-16	NAD	--	--	--	--	100	--	TR	--	--	--	IN	White	Homogeneous	SW	
13028215	GD2-17	2	2	--	--	--	--	--	--	--	--	98	FT	Tan	Homogeneous	SW	
13028216	GD2-18	2	2	--	--	--	--	--	--	--	--	98	MS	White	Homogeneous	SW	
13028217	GD2-19	2	2	--	--	--	--	--	--	--	--	98	FT	Red	Homogeneous	SW	
13028218	GD2-20	2	2	--	--	--	--	--	58	--	--	40	PW	Gray	Homogeneous	SW	
13028219	GD2-21	2	2	--	--	--	--	--	68	--	--	30	PI	Brown	Homogeneous	SW	

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Summary of Polarized Light Microscopy

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13028220	GD2-22	65	65	--	--	--	--	--	TR	--	--	35	PI	White	Homogeneous	SW	
13028221	GD2-23	NAD	--	--	--	--	--	--	--	--	--	100	IN	White	Homogeneous	SW	
13028222	GD2-24	NAD	--	--	--	--	TR	--	TR	--	--	100	PL	White	Homogeneous	SW	
13028223	GD2-25	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	SW	
13028224	GD2-26	NAD	--	--	--	--	--	--	--	--	--	100	TZ	Red	Homogeneous	SW	
13028225	GD2-27	60	60	--	--	--	--	--	--	--	--	40	Radiator IN	Multi	Homogeneous	SW	
13028226	GD3-1	12	10	--	2	--	--	--	TR	--	--	88	PI	White	Homogeneous	SW	
13028227	GD3-2	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028228	GD3-3	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	SW	
13028229	GD3-4	NAD	--	--	--	--	--	--	--	--	--	100	IN	White	Homogeneous	SW	
13028230	GD3-5	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028231	GD3-6	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	SW	
13028232	GD3-7	NAD	--	--	--	--	--	--	--	--	--	100	IN	Red	Homogeneous	SW	
13028233	GD4-1	2	2	--	--	--	--	--	--	--	--	98	FT	Black	Homogeneous	SW	

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13028234	GD4-2	NAD	--	--	--	--	--	--	TR	--	--	100	MS	Black	Homogeneous	SW	
13028235	GD4-3A	2	2	--	--	--	--	--	--	--	--	98	FT	Beige	Homogeneous	SW	
13028236	GD4-3B	NAD	--	--	--	--	--	--	TR	--	2	98	MS	Black	Homogeneous	SW	
13028237	GD4-4	NAD	--	--	--	--	--	--	TR	--	--	100	PL	White	Homogeneous	SW	
13028238	GD4-5	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	SW	
13028239	GD4-6	50	50	--	--	--	--	--	20	--	--	30	PI	Gray	Homogeneous	SW	
13028240	GD4-7	NAD	--	--	--	--	--	--	10	--	--	90	VSF	Multi	Homogeneous	SW	
13028241	GD4-8	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028242	GD4-9	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	SW	
13028243	GD4-10	NAD	--	--	--	--	--	--	TR	--	--	100	Roof Sheathing	Gray	Homogeneous	SW	
13028244	GD4-11	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028245	GD4-12	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	SW	
13028246	GD4-13	NAD	--	--	--	--	--	--	--	--	--	100	IN	White	Homogeneous	SW	
13028247	GD4-14	NAD	--	--	--	--	--	--	--	--	--	100	Roof	White	Homogeneous	SW	

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	Sparks, Maryland 21152	**Job Number:**	27122989	**Person Submitting:**	Josh Julius
		P.O. Number:	Not Provided		

Attention: Josh Julius

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
13028248	GD4-15	30	30	--	--	--	--	--	TR	--	--	70	PI	White	Homogeneous	SW	
13028249	GD4-16	3	3	--	--	--	--	--	--	--	--	97	FT	Green	Homogeneous	SW	
13028250	GD4-17	NAD	--	--	--	--	--	--	2	--	--	98	MS	Black	Homogeneous	SW	
13028251	GD4-18	60	60	--	--	--	--	--	--	--	--	40	Fitting	Gray	Homogeneous	SW	
13028252	GD4-19	NAD	--	--	--	--	--	--	10	--	--	90	FI	Multi	Homogeneous	SW	
13028253	GD5-1	NAD	--	--	--	--	--	--	TR	--	--	100	Rock Lathe	Gray	Homogeneous	SW	
13028254	GD5-2	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028255	GD5-3	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Gray	Homogeneous	SW	
13028256	GD5-4A	NAD	--	--	--	--	--	--	70	--	--	30	FiB	Brown	Homogeneous	SW	
13028257	GD5-4B	NAD	--	--	--	--	--	--	TR	--	--	100	TP	Black	Homogeneous	SW	
13028258	GD5-5	30	27	--	3	--	--	--	--	--	--	70	PI	Beige	Homogeneous	SW	
13028259	GD5-6	2	2	--	--	--	--	--	--	--	--	98	FT	Multi	Homogeneous	SW	
13028260	GD5-7	2	2	--	--	--	--	--	8	--	--	90	MS	Black	Homogeneous	SW	
13028261	GD5-8	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	

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Summary of Polarized Light Microscopy

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13028262	GD5-9	NAD	--	--	--	--	--	--	--	--	--	100	BC	Gray	Homogeneous	SW	
13028263	GD5-10	NAD	--	--	--	--	--	--	--	--	--	100	WG	White	Homogeneous	SW	
13028264	GD8-1	20	20	--	TR	--	--	--	--	--	--	80	PI	White	Homogeneous	SW	
13028265	GD8-2A	NAD	--	--	--	--	--	--	70	--	--	30	PI	Brown	Homogeneous	SW	
13028266	GD8-2B	NAD	--	--	--	--	--	--	70	--	--	30	PI	Black	Homogeneous	SW	
13028267	GD8-3	NAD	--	--	--	--	--	TR	10	--	--	90	TSI	White	Homogeneous	SW	
13028268	GD8-4	10	10	--	--	--	--	--	TR	--	--	90	Fitting	Gray	Homogeneous	SW	
13028269	GD8-5	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
13028270	GD8-6	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Gray	Homogeneous	PC	
13028271	GD8-7	NAD	--	--	--	--	--	--	10	--	--	90	Rock Lathe	Multi	Layered	PC	
13028272	GD8-8	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
13028273	GD8-9	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	PC	
13028274	GD8-10	NAD	--	--	--	--	--	--	TR	--	--	100	Rock Lathe	Brown	Homogeneous	PC	
13028275	GD8-11A	NAD	--	--	--	--	--	--	60	--	--	40	Fiber B.	Brown	Homogeneous	PC	

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13028276	GD8-11B	NAD	--	--	--	--	--	--	10	--	--	90	Tar P.	Black	Homogeneous	PC	
13028277	GD8-12	TR [1]	TR	--	--	--	--	--	--	--	--	100	FT	Multi	Homogeneous	PC	
13028278	GD8-14	2	2	--	--	--	--	--	--	--	--	98	FT	Gray	Homogeneous	PC	
13028279	GD8-15	3	3	--	--	--	--	--	TR	--	--	97	MS	Black	Homogeneous	PC	
13028280	GD9-1	2	2	--	--	--	--	--	--	--	--	98	FT	Brown	Homogeneous	PC	
13028281	GD9-2	2	2	--	--	--	--	--	--	--	--	98	MS	Black	Homogeneous	PC	
13028282	GD9-3	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
13028283	GD9-4	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	PC	
13028284	GD9-5	NAD	--	--	--	--	25	--	30	--	--	45	CT	Multi	Layered	PC	
13028285	GD9-6	NAD	--	--	--	--	40	--	20	--	--	40	CT	Multi	Layered	PC	
13028286	GD9-7	NAD	--	--	--	--	--	--	TR	--	2	98	MS	Brown	Homogeneous	PC	
13028287	GD9-8	NAD	--	--	--	--	--	--	--	--	--	100	FT	Green	Homogeneous	PC	
13028288	GD9-9	TR [1]	TR	--	--	--	--	--	--	--	--	100	MS	Black	Homogeneous	PC	
13028289	GD9-10A	5	5	--	--	--	--	--	--	--	--	95	FT	Gray	Homogeneous	PC	

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CERTIFICATE OF ANALYSIS

NVLAP® 101143-0

Client:	KCI Technologies, Inc.	**Job Name:**	Glenn Dale	**Chain Of Custody:**	222326
Address:	936 Ridgebrook Road	**Job Location:**	Not Provided	**Date Analyzed:**	1/17/2013
	Sparks, Maryland 21152	**Job Number:**	27122989	**Person Submitting:**	Josh Julius
		P.O. Number:	Not Provided		

Attention: Josh Julius

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
13028290	GD9-10B	TR	TR	--	--	--	--	--	TR	--	--	100	MS	Black	Homogeneous	PC	Chrysotile observed probable contamination from associated positive floor tile.
13028291	GD9-11	2	2	--	--	--	--	--	--	--	--	98	FT	Brown	Homogeneous	PC	
13028292	GD9-12	TR	TR	--	--	--	--	--	TR	--	--	100	MS	Black	Homogeneous	PC	Chrysotile observed probable contamination from associated positive floor tile.
13028293	GD9-13	22	20	--	2	--	--	--	--	--	--	78	PI	White	Homogeneous	PC	
13028294	GD9-14	NAD	--	--	--	--	--	--	60	2	--	38	PI	Brown	Homogeneous	PC	
13028295	GD9-15	4	4	--	--	--	--	--	--	--	--	96	FT	Multi	Homogeneous	PC	
13028296	GD9-16	TR	TR	--	--	--	TR	--	TR	--	--	100	MS	Black	Homogeneous	PC	Chrysotile observed probable contamination from associated positive floor tile.
13028297	GD9-17	NAD	--	--	--	--	--	--	70	--	--	30	CT	Multi	Layered	PC	
13028298	GD9-18	NAD	--	--	--	--	--	--	--	--	--	100	MS	Brown	Homogeneous	PC	
13028299	GD9-19	5	2	3	--	--	55	--	TR	--	--	40	CT	Multi	Layered	PC	

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13028300	GD9-20	3	3	--	--	--	--	--	--	--	--	97	FT	Black	Homogeneous	PC	
13028301	GD9-21	TR	TR	--	--	--	TR	--	TR	--	--	100	MS	Black	Homogeneous	PC	Chrysotile observed probable contamination from associated positive floor tile.
13028302	GD9-22	3	3	--	--	--	--	--	--	--	--	97	FT	Multi	Homogeneous	PC	
13028303	GD9-23	2	2	--	--	--	58	--	--	--	--	40	CT	Multi	Layered	PC	
13028304	GD9-25	NAD	--	--	--	--	TR	--	TR	--	--	100	Cement	Brown	Homogeneous	PC	
13028305	GD9-26	65	65	--	--	--	--	--	--	--	--	35	PW	Gray	Homogeneous	PC	
13028306	GD9-27	30	25	--	5	--	--	--	--	--	--	70	PI	White	Homogeneous	PC	
13028307	GD9-28	NAD	--	--	--	--	98	--	TR	--	--	2	IN	White	Homogeneous	PC	
13028308	GD9-29	NAD	--	--	--	--	--	--	70	--	--	30	PW	Black	Homogeneous	PC	
13028309	GD9-30	40	40	--	--	--	--	--	--	30	--	30	VIB	Gray	Homogeneous	PC	
13028310	GD9-31A	NAD	--	--	--	--	--	--	--	--	--	100	FT	Multi	Homogeneous	PC	
13028311	GD9-31B	TR [1]	TR	--	--	--	--	--	TR	--	--	100	MS	Black	Homogeneous	PC	
13028312	GD9-32	NAD	--	--	--	--	--	--	--	--	--	100	GZ	Beige	Homogeneous	PC	

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13028313	GD9-33	2	2	--	--	--	--	--	--	--	--	98	FT	Black	Homogeneous	PC	
13028314	GD9-34	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
13028315	GD9-35	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	PC	
13028316	GD9-36	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
13028317	GD9-37	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	PC	
13028318	GD9-38	40	40	--	--	--	--	--	--	--	5	55	Fitting	Off-White	Homogeneous	PC	
13028319	GD9-39	NAD	--	--	--	--	--	--	--	--	--	100	GZ	Gray	Homogeneous	PC	
13028320	GD9-40	NAD	--	--	--	--	--	--	65	--	--	35	IN	Brown	Homogeneous	PC	
13028321	GD9-41	2	2	--	--	--	--	--	--	--	--	98	FT	Red	Homogeneous	PC	
13028322	GD9-42	3	3	--	--	--	--	--	--	--	--	97	MS	Black	Homogeneous	PC	
13028323	GD9-43A	3	3	--	--	--	--	--	--	--	--	97	FT	Gray	Homogeneous	PC	
13028324	GD9-43B	NAD	--	--	--	--	--	--	TR	--	--	100	MS	Black	Homogeneous	PC	
13028325	GD9-44	NAD	--	--	--	--	--	--	--	--	--	100	Cork	Brown	Homogeneous	PC	
13028326	GD9-45	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
13028327	GD9-46	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	PC	

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13028328	GD9-47	NAD	--	--	--	--	98	--	TR	--	--	2	IN	Off-White	Homogeneous	PC	
13028329	GD9-48A	NAD	--	--	--	--	--	--	--	--	--	100	VFT	Green	Homogeneous	PC	
13028330	GD9-48B	60	60	--	--	--	--	--	--	--	--	40	Pbacking	Off-White	Homogeneous	PC	
13028331	GD9-49	NAD	--	--	--	--	--	--	--	--	--	100	MS	Black	Homogeneous	PC	
13028332	GD9-50	NAD	--	--	--	--	--	--	--	--	--	100	TZ	Multi	Homogeneous	PC	
13028333	GD9-51	20	20	--	--	--	--	--	--	--	--	80	FT	Multi	Layered	PC	
13028334	GD9-52	NAD	--	--	--	--	--	--	--	--	--	100	MS	Black	Homogeneous	PC	
13028335	GD9-54	NAD	--	--	--	--	--	--	--	--	--	100	Roof Sheathing	Gray	Homogeneous	PC	
13028336	GD9-55	NAD	--	--	--	--	2	--	20	--	--	78	Felt	Black	Homogeneous	PC	
13028337	GD9-56	3	3	--	--	--	--	--	TR	--	--	97	Coating	Black	Homogeneous	PC	
13028338	GD9-57	45	45	--	--	--	--	--	--	--	--	55	Coating	White	Homogeneous	PC	
13028339	GD9-58	60	60	--	--	--	--	--	--	--	--	40	Coating	White	Homogeneous	PC	
13028340	GD9-59	40	40	--	--	--	--	--	--	20	--	40	VIB	Gray	Homogeneous	PC	
13028341	GD9-60	NAD	--	--	--	--	98	--	TR	--	--	2	IN	White	Homogeneous	PC	

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Summary of Polarized Light Microscopy

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13028342	GD9-61	NAD	--	--	--	--	--	--	--	--	--	100	TZ	Black	Homogeneous	PC	
13028343	GD9-62	NAD	--	--	--	--	--	--	--	--	--	100	IN	White	Homogeneous	PC	
13028344	GD9-63	15	15	--	--	--	--	--	--	--	--	85	Transite	Gray	Homogeneous	PC	
13028345	GD9-64	NAD	--	--	--	--	--	--	TR	--	--	100	IN	Pink	Homogeneous	PC	
13028346	GD9-65	65	65	--	--	--	--	--	--	--	--	35	Conduit Lining	Gray	Homogeneous	PC	
13028347	GD9-66	17	15	--	2	--	--	--	--	--	--	83	PI	White	Homogeneous	PC	
13028348	GD9-67	NAD	--	--	--	--	--	--	100	--	--	--	GK	Off-White	Homogeneous	PC	
13028349	GD9-68	5	5	--	--	--	--	--	--	--	--	95	FT	Brown	Homogeneous	PC	
13028350	GD9-69	5	5	--	--	--	--	--	TR	--	--	95	MS	Black	Homogeneous	PC	
13028351	GD9-70	30	20	10	--	--	--	--	--	--	--	70	IN	White	Homogeneous	PC	
13028352	GD9-71	NAD	--	--	--	--	--	--	TR	--	--	100	Surfacing	Gray	Homogeneous	PC	
13028353	GD9-72	65	65	TR	--	--	--	--	--	--	--	35	IN	Gray	Homogeneous	PC	
13028354	GD9-73	60	60	--	--	--	--	--	--	--	--	40	Fitting	Gray	Homogeneous	PC	
13028355	GD9-74	NAD	--	--	--	--	--	--	10	--	--	90	DW	Multi	Layered	PC	

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Attention: Josh Julius

Summary of Polarized Light Microscopy

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13028356	GD9-75	2	2	--	--	--	--	--	--	--	--	98	Surfacing	Gray	Homogeneous	PC	
13028357	GD9-76	20	20	--	--	--	--	--	--	--	--	80	MS	Brown	Homogeneous	PC	
13028358	GD10-1	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
13028359	GD10-2	3	3	--	--	--	--	--	--	--	--	97	FT	Green	Homogeneous	PC	
13028360	GD10-3	2	2	--	--	--	--	--	TR	--	--	98	MS	Black	Homogeneous	PC	
13028361	GD10-4	40	30	10	--	--	--	--	--	--	--	60	PI	White	Homogeneous	PC	
13028362	GD10-5	40	TR	40	--	--	--	--	--	--	--	60	IN	Off-White	Homogeneous	PC	
13028363	GD10-6	NAD	--	--	--	--	--	--	--	--	--	100	MS	Brown	Homogeneous	PC	
13028364	GD10-7	NAD	--	--	--	--	--	--	80	--	--	20	CT	Multi	Layered	PC	
13028365	GD10-8	2	2	--	--	--	--	--	--	--	--	98	FT	Multi	Homogeneous	PC	
13028366	GD10-9	3	3	--	--	--	--	--	TR	--	--	97	MS	Black	Homogeneous	PC	
13028367	GD10-10	2	2	--	--	--	58	--	--	--	--	40	CT	Multi	Layered	PC	
13028368	GD10-11	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
13028369	GD10-12	NAD	--	--	--	--	--	--	--	--	--	100	BC	Gray	Homogeneous	PC	
13028370	GD10-13	NAD	--	--	--	--	--	--	--	--	--	100	PL	Gray	Homogeneous	PC	

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13028371	GD10-14	30	25	--	5	--	--	--	--	--	--	70	IN	White	Homogeneous	PC	
13028372	GD10-15	NAD	--	--	--	--	--	TR	--	--	--	100	IN	White	Homogeneous	PC	
13028373	GD10-16	NAD	--	--	--	--	25	--	--	--	--	75	IN	Gray	Homogeneous	PC	
13028374	GD11-1	60	60	--	--	--	--	--	--	--	--	40	IN	Gray	Homogeneous	PC	
13028375	GD11-2	2	--	2	--	--	20	--	--	--	--	78	IN	Gray	Homogeneous	PC	
13028376	GD11-3	2	--	2	--	--	20	--	2	--	--	76	Fitting	Gray	Homogeneous	PC	
13028377	GD11-4	NAD	--	--	--	--	--	2	40	--	--	58	Wrap	Multi	Layered	PC	
13028378	GD11-5	65	65	--	--	--	--	--	--	--	--	35	IN	Gray	Homogeneous	PC	
13028379	GD11-6	65	65	--	--	--	--	--	--	--	--	35	IN	White	Homogeneous	PC	
13028380	GD11-7	2	--	2	--	--	20	--	TR	--	--	78	Fitting	Gray	Homogeneous	PC	
13028381	GD11-8	65	65	--	--	--	--	--	--	--	--	35	IN	Gray	Homogeneous	PC	
13028382	GD11-9	20	20	--	--	--	20	--	--	--	--	60	Fitting	Beige	Homogeneous	PC	
13028383	GD11-10	60	60	--	--	--	--	--	--	--	--	40	IN	Gray	Homogeneous	PC	
13028384	GD11-11	NAD	--	--	--	--	--	--	--	--	--	100	Mortar	Beige	Homogeneous	PC	
13028385	GD11-12	30	10	20	--	--	--	--	--	--	--	70	IN	Off-White	Homogeneous	PC	

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13028386	GD11-13	2	2	--	--	--	--	--	--	--	--	98	FT	Multi	Homogeneous	PC	
13028387	GD11-14	TR	TR	--	--	--	--	--	--	--	--	100	MS	Black	Homogeneous	PC	Chrysotile observed probable contamination from associated positive floor tile.
13028388	GD11-15A	3	3	--	--	--	--	--	--	--	--	97	FT	Green	Homogeneous	PC	
13028389	GD11-15B	2	2	--	--	--	--	--	--	--	--	98	MS	Black	Homogeneous	PC	
13028390	GD11-16	30	25	--	5	--	--	--	--	--	--	70	PI	White	Homogeneous	PC	
13028391	GD11-17	30	10	20	--	--	--	--	--	--	--	70	PI	Off-White	Homogeneous	PC	
13028392	GD11-18	NAD	--	--	--	--	--	--	--	--	--	100	Brick	Brown	Homogeneous	PC	
13028393	GD11-19	NAD	--	--	--	--	--	--	--	--	--	100	Mortar	Black	Homogeneous	PC	
13028394	GD14-1	TR [1]	TR	--	--	--	--	--	--	--	--	100	GZ	Beige	Homogeneous	PC	
13028395	GD15-1	NAD	--	--	--	--	--	--	--	--	--	100	GZ	Gray	Homogeneous	PC	
13028396	GD16-1	2	2	--	--	--	--	--	--	--	--	98	FT	Black	Homogeneous	PC	

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13028397	GD16-2	TR	TR	--	--	--	--	--	TR	--	--	100	MS	Black	Homogeneous	PC	Chrysotile observed probable contamination from associated positive floor tile.
13028398	GD16-3	2	2	--	--	--	--	--	--	--	--	98	FT	Green	Homogeneous	PC	
13028399	GD16-4	TR	TR	--	--	--	--	--	TR	--	--	100	MS	Black	Homogeneous	PC	Chrysotile observed probable contamination from associated positive floor tile.
13028400	GD16-5	20	20	TR	--	--	--	--	--	--	--	80	PI	White	Homogeneous	SW	
13028401	GD16-6	3	3	--	--	--	--	--	57	--	--	40	PI	Brown	Homogeneous	SW	
13028402	GD16-7	60	60	--	--	--	--	--	--	--	--	40	Fitting	Gray	Homogeneous	SW	
13028403	GD16-8	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028404	GD16-9	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	SW	
13028405	GD16-10	2	2	--	--	--	--	--	--	--	--	98	FT	Tan	Homogeneous	SW	
13028406	GD16-11	NAD	--	--	--	--	--	--	2	--	--	98	MS	Black	Homogeneous	SW	
13028407	GD16-12	NAD	--	--	--	--	--	--	20	--	--	80	Felt	Black	Homogeneous	SW	

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CERTIFICATE OF ANALYSIS

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101143-0

Client:	KCI Technologies, Inc.	**Job Name:**	Glenn Dale	**Chain Of Custody:**	222326
Address:	936 Ridgebrook Road	**Job Location:**	Not Provided	**Date Analyzed:**	1/17/2013
	Sparks, Maryland 21152	**Job Number:**	27122989	**Person Submitting:**	Josh Julius
		P.O. Number:	Not Provided		

Attention: Josh Julius

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
13028408	GD16-13	NAD	--	--	--	--	90	--	TR	--	--	10	AI	Black	Homogeneous	SW	
13028409	GD16-14	NAD	--	--	--	--	--	--	--	--	--	100	CC	Gray	Homogeneous	SW	
13028410	GD16-15	NAD	--	--	--	--	--	--	--	--	--	100	WG	Gray	Homogeneous	SW	
13028411	GD16-16	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028412	GD16-17	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	SW	
13028413	GD16-18	NAD	--	--	--	--	90	--	--	--	--	10	IN	Black	Homogeneous	SW	
13028414	GD16-19A	2	2	--	--	--	--	--	--	--	--	98	FT	Black	Homogeneous	SW	
13028415	GD16-19B	2	2	--	--	--	--	--	--	--	--	98	MS	Black	Homogeneous	SW	
13028416	GD16-20	20	10	10	--	--	--	--	TR	--	--	80	TSI	White	Homogeneous	SW	
13028417	GD16-21	60	60	--	--	--	--	--	--	--	--	40	TSI	Gray	Homogeneous	SW	
13028418	GD17-1	NAD	--	--	--	--	--	--	90	--	--	10	Wrap	Brown	Homogeneous	SW	
13028419	GD17-2	NAD	--	--	--	--	--	--	30	--	--	70	Felt	Black	Homogeneous	SW	
13028420	GD17-3	TR	TR	--	--	--	40	--	--	--	--	60	IN	Gray	Homogeneous	SW	
13028421	GD17-4	40	40	--	--	--	20	--	--	--	--	40	Fitting	Gray	Homogeneous	SW	
13028422	GD17-5	20	5	15	--	--	--	--	--	--	--	80	PI	Gray	Homogeneous	SW	

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	Sparks, Maryland 21152	**Job Number:**	27122989	**Person Submitting:**	Josh Julius
		P.O. Number:	Not Provided		
Attention:	Josh Julius				

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
13028423	GD17-6	NAD	--	--	--	--	--	--	--	--	--	100	WG	Gray	Homogeneous	SW	
13028424	GD17-7	NAD	--	--	--	--	--	--	--	--	--	100	CP	Tan	Homogeneous	SW	
13028425	GD17-8	4	4	--	--	--	--	--	--	--	--	96	JC	Off-White	Homogeneous	SW	
13028426	GD17-9	NAD	--	--	--	--	--	--	10	--	--	90	DW	Multi	Layered	SW	
13028427	GD17-10	60	60	--	--	--	--	--	--	--	--	40	Fitting	Gray	Homogeneous	SW	
13028428	GD18-1	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028429	GD18-2	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	SW	
13028430	GD18-3	NAD	--	--	--	--	100	--	--	--	--	--	IN	White	Homogeneous	SW	
13028431	GD18-4	5	5	--	--	--	--	--	65	--	--	30	DW	Gray	Homogeneous	SW	
13028432	GD18-5	5	5	--	--	--	--	--	55	--	--	40	PI	Beige	Homogeneous	SW	
13028433	GD18-6	12	10	--	2	--	--	--	--	--	--	88	PI	White	Homogeneous	SW	
13028434	GD19-1	2	2	--	--	--	--	--	--	--	TR	98	WG	Gray	Homogeneous	SW	
13028435	GD20-1	NAD	--	--	--	--	--	--	TR	--	--	100	Rock Lathe	White	Homogeneous	SW	
13028436	GD20-2	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	

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	Sparks, Maryland 21152	**Job Number:**	27122989	**Person Submitting:**	Josh Julius
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Attention: Josh Julius

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
13028437	GD20-3	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	SW	
13028438	GD21-1	60	60	--	--	--	--	--	--	--	--	40	Fitting	Gray	Homogeneous	SW	
13028439	GD21-2	30	30	--	--	--	--	--	40	--	--	30	PW	Gray	Homogeneous	SW	
13028440	GD21-3	NAD	--	--	--	--	--	--	70	--	--	30	PI	Brown	Homogeneous	SW	
13028441	GD21-4	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028442	GD21-5	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	SW	
13028443	GD21-6	NAD	--	--	--	--	--	--	10	--	--	90	Rock Lathe	Multi	Layered	SW	
13028444	GD21-7	NAD	--	--	--	--	--	--	--	--	--	100	WG	Gray	Homogeneous	SW	
13028445	GD21-8	40	40	--	--	--	--	--	--	--	--	60	FI	Off-White	Homogeneous	SW	
13028446	GD21-9	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13028447	GD21-10	NAD	--	--	--	--	--	--	--	--	--	100	BC	Brown	Homogeneous	SW	
13028448	GD21-11	30	20	10	--	--	--	--	--	--	--	70	TSI	White	Homogeneous	SW	
13028449	GD21-12	NAD	--	--	--	--	--	--	--	--	--	100	Ceiling	Beige	Homogeneous	SW	
13028450	GD21-13	60	60	--	--	--	--	--	5	--	--	35	AC	Off-White	Homogeneous	SW	

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Address:	936 Ridgebrook Road	**Job Location:**	Not Provided	**Date Analyzed:**	1/17/2013
	Sparks, Maryland 21152	**Job Number:**	27122989	**Person Submitting:**	Josh Julius
		P.O. Number:	Not Provided		
Attention:	Josh Julius				

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
13028451	GD21-14	60	60	--	--	--	--	--	--	--	--	40	Fitting	Gray	Homogeneous	SW	
13028452	GD21-15	5	5	--	--	--	--	--	--	--	--	95	FT	Tan	Homogeneous	SW	
13028453	GD21-16	NAD	--	--	--	--	--	--	--	--	--	100	MS	Black	Homogeneous	SW	
13028454	GD21-17	NAD	--	--	--	--	20	--	35	--	--	45	CT	Multi	Layered	SW	
13028455	GD21-18	NAD	--	--	--	--	--	--	--	--	--	100	CB	Black	Homogeneous	SW	
13028456	GD21-19	NAD	--	--	--	--	--	--	--	--	2	98	MS	Black	Homogeneous	SW	
13028457	GD21-20	NAD	--	--	--	--	--	--	--	--	--	100	Surfacing	Gray	Homogeneous	SW	
13028458	GD21-21	NAD	--	--	--	--	--	--	--	--	--	100	Surfacing	Gray	Homogeneous	SW	
13028459	GD22-1	15	15	--	--	--	--	--	--	--	--	85	Transite	Gray	Homogeneous	SW	
13028460	GD22-2	NAD	--	--	--	--	--	--	80	TR	--	20	PW	Multi	Homogeneous	SW	
13028461	GD22-3	NAD	--	--	--	--	--	--	75	5	--	20	PI	Brown	Homogeneous	SW	
13028462	GD22-4	30	20	5	5	--	--	--	--	--	--	70	Fitting	White	Homogeneous	SW	
13028463	GD22-5	TR [1]	TR	--	--	--	--	--	--	--	--	100	WG	Gray	Homogeneous	SW	
13028464	GD23-1	NAD	--	--	--	--	--	--	--	--	--	100	Cement	Gray	Homogeneous	SW	
13028465	GD23-2	NAD	--	--	--	--	--	--	TR	--	--	100	Brick	Multi	Homogeneous	SW	

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Address:	936 Ridgebrook Road	**Job Location:**	Not Provided	**Date Analyzed:**	1/17/2013
	Sparks, Maryland 21152	**Job Number:**	27122989	**Person Submitting:**	Josh Julius
		P.O. Number:	Not Provided		
Attention:	Josh Julius				

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
13028466	GD23-3	NAD	--	--	--	--	--	--	--	--	--	100	Brick	Gray	Homogeneous	SW	
13028467	GD23-4	NAD	--	--	--	--	20	--	TR	--	--	80	Mortar	Brown	Homogeneous	SW	
13028468	GD23-5	20	20	--	--	--	--	--	--	--	--	80	SD	Beige	Homogeneous	SW	
13028469	GD23-6	20	20	--	--	--	--	--	--	--	--	80	Transite	Gray	Homogeneous	SW	
13028470	GD23-7	NAD	--	--	--	--	--	--	--	--	--	100	Brick	Multi	Homogeneous	SW	
13028471	GD23-8	NAD	--	--	--	--	--	--	--	--	--	100	Brick	Gray	Homogeneous	SW	
13028472	GD8-12B	4	4	--	--	--	--	--	--	--	--	96	MS	Black	Homogeneous	PC	
13028473	GD16-6B	2	2	--	--	--	--	--	TR	--	--	98	PI	Black	Homogeneous	SW	

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	Sparks, Maryland 21152	**Job Number:**	27122989	**Person Submitting:**	Josh Julius
		P.O. Number:	Not Provided		
Attention:	Josh Julius				

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments

The following footnotes only apply to those samples which the total asbestos result is flagged with a note number.

1 TEM RECOMMENDATION - Please note, due to resolution limitations with optical microscopy and/or interference from matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos. It is recommended that the additional analytical technique of TEM be used to check for asbestos fibers below the resolution limits of optical microscopy.

2 MATRIX REDUCTION RECOMMENDATION - Please note, due to interference from the matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos which is obscured from view. It is recommended that the additional preparation technique of gravimetric reduction be performed on this sample to minimize the obscuring effects of matrix components, followed by reanalysis by PLM and/or TEM.

Analysis Method - EPA/600/R-93/116 dated July 1993

NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"

Uncertainty: For samples containing asbestos in range of 1-10% the CV is 0.43, 11-35% CV=0.55, >35 CV=0.23

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

Technical Director Peerawut Chaikeenee

Analyst(s) P. Chaikeenee / S. Watson

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GD1-1	Plaster – skim	Capper Hall	South Stairwell
GD1-2	Plaster – base	Capper Hall	South Stairwell
GD1-3	Blown Insulation	Capper Hall	2nd Floor South Bathroom
GD1-4	Sheet Flooring - brown	Capper Hall	2nd Floor South Corridor
GD1-5	Black Mastic	Capper Hall	Beneath GD1-4
GD1-6	Wire Insulation	Capper Hall	2nd South Hallway
GD1-7	Pipe Insulation – white	Capper Hall	2nd Floor near Rm 214
GD1-8	Pipe Insulation – grey	Capper Hall	2nd Floor near Rm 212
GD1-9	Pipe Fitting Insulation	Capper Hall	2nd Floor Hallway
GD2-1	9" Floor Tile - brown	Children's Hospital	Main Lobby
GD2-2	Floor Tile Mastic – yellow	Children's Hospital	Beneath GD2-1
GD2-3	Sheet Flooring – black	Children's Hospital	1st Floor
GD2-4	Pipe Insulation – white	Children's Hospital	Steam pipe next to elevator
GD2-5	9" Floor Tile – green	Children's Hospital	Hallway near building 18
GD2-6	9" Floor Tile – tan	Children's Hospital	Hallway near building 18
GD2-7	Floor Tile Mastic – black	Children's Hospital	Hallway near building 18
GD2-8	Fire Door Insulation	Children's Hospital	North Stairwell
GD2-9	Plaster – skim	Children's Hospital	First Floor
GD2-10	Plaster – base	Children's Hospital	First Floor
GD2-11	Window Glazing	Children's Hospital	First Floor
GD2-12	1'x1' Ceiling Tile	Children's Hospital	Basement
GD2-13	Brown Mastic Dot	Children's Hospital	Basement
GD2-14	Plaster – skim	Children's Hospital	2nd Floor North
GD2-15	Plaster – base	Children's Hospital	2nd Floor North
GD2-16	Blown Insulation	Children's Hospital	2nd Floor North
GD2-17	12" Floor Tile – tan	Children's Hospital	2nd Floor North
GD2-18	Floor Tile Mastic – white	Children's Hospital	2nd Floor North
GD2-19	9" Floor Tile – red	Children's Hospital	2nd Floor North
GD2-20	Pipe Wrap – grey	Children's Hospital	Domestic water 2nd Floor
GD2-21	Pipe Insulation – brown	Children's Hospital	Domestic water 2nd Floor
GD2-22	Pipe Insulation – white	Children's Hospital	Domestic water 2nd Floor
GD2-23	Blown Insulation	Children's Hospital	3rd Floor Solarium
GD2-24	Plaster – skim	Children's Hospital	3rd Floor North Hallway
GD2-25	Plaster – base	Children's Hospital	3rd Floor North Hallway
GD2-26	Terrazo Floor	Children's Hospital	4th Floor Center
GD2-27	Radiator Insulation	Children's Hospital	Stairwell
GD3-1	Pipe Insulation – white	Peabody Hall	1st Floor Hallway
GD3-2	Plaster – skim	Peabody Hall	2nd Floor Hallway
GD3-3	Plaster – base	Peabody Hall	2nd Floor Hallway
GD3-4	Blown Insulation	Peabody Hall	2nd Floor Hallway
GD3-5	Plaster – skim	Peabody Hall	Entrance
GD3-6	Plaster – base	Peabody Hall	Entrance
GD3-7	Refrigerator Door Insulation	Peabody Hall	Basement
GD4-1	9" Floor Tile – black	McCarren Hall	Front Entrance
GD4-2	Floor Tile Mastic – black	McCarren Hall	Front Entrance
GD4-3	9" Floor Tile – white (beige)	McCarren Hall	Front Entrance

4-3A QSSC M

GD4-4	Plaster – skim	McCarren Hall	Front Entrance
GD4-5	Plaster – base	McCarren Hall	Front Entrance
GD4-6	Pipe Insulation – grey	McCarren Hall	1st Floor near Entrance
GD4-7	Sheet Flooring – grey	McCarren Hall	North end of 1st Floor Hall
GD4-8	Plaster – skim	McCarren Hall	2nd Floor
GD4-9	Plaster – base	McCarren Hall	2nd Floor
GD4-10	Roof Sheathing	McCarren Hall	Roof
GD4-11	Plaster – skim	McCarren Hall	2nd Floor
GD4-12	Plaster – base	McCarren Hall	2nd Floor
GD4-13	Blown Insulation	McCarren Hall	Attic
GD4-14	Tectum Roofing	McCarren Hall	Roof
GD4-15	Duct Insulation – white	McCarren Hall	Attic
GD4-16	9" Floor Tile – green	McCarren Hall	3rd Floor
GD4-17	Floor Tile Mastic – black	McCarren Hall	Beneath GD4-16
GD4-18	Pipe Fitting Insulation	McCarren Hall	Basement
GD4-19	Fire Door Insulation	McCarren Hall	Basement
GD5-1	Rock Lathe	West Duplex	W. 2nd Floor
GD5-2	Plaster – skim	West Duplex	W. 2nd Floor
GD5-3	Plaster – base	West Duplex	W. 2nd Floor
GD5-4 A B	Wall Sheathing A= FD B= TD	West Duplex	W. 2nd Floor
GD5-5	Pipe Insulation – white	West Duplex	E. 1st Floor
GD5-6	9" Floor Tile – grey	West Duplex	E. Kitchen
GD5-7	Floor Tile Mastic	West Duplex	Beneath GD5-6
GD5-8	Plaster – skim	West Duplex	E. 1st Floor
GD5-9	Plaster – base	West Duplex	E. 1st Floor
GD5-10	Window Glazing	West Duplex	E. 3rd Floor
GD8-1	Pipe Insulation – white	East Duplex	W. Basement
GD8-2 A B	Pipe Insulation – grey A= beige B= black	East Duplex	W. Basement
GD8-3	Tank Insulation	East Duplex	W. Basement
GD8-4	Fitting Insulation	East Duplex	W. Basement
GD8-5	Plaster – skim	East Duplex	W. 1st Floor
GD8-6	Plaster – base	East Duplex	W. 1st Floor
GD8-7	Rock Lathe	East Duplex	W. 1st Floor
GD8-8	Plaster – skim	East Duplex	E. 2nd Floor
GD8-9	Plaster – base	East Duplex	E. 2nd Floor
GD8-10	Rock Lathe	East Duplex	E. 2nd Floor
GD8-11 A B	Wall Sheathing A= FB B= TB	East Duplex	E. 2nd Floor
GD8-12 A B	12" Floor Tile – grey and brown	East Duplex	E. Basement
GD8-14	9" Floor Tile – grey	East Duplex	E. Kitchen
GD8-15	Floor Tile Mastic - black	East Duplex	E. Kitchen
GD9-1	12" Floor Tile – tan	Adult Hospital	1st Floor S. End
GD9-2	Floor Tile Mastic – black	Adult Hospital	1st Floor S. End
GD9-3	Plaster – skim	Adult Hospital	1st Floor S. End
GD9-4	Plaster – base	Adult Hospital	1st Floor S. End
GD9-5	2'x4' Ceiling Tile	Adult Hospital	1st Floor S. End
GD9-6	1'x1' Ceiling Tile	Adult Hospital	1st Floor S. End

GD4-4	Plaster – skim	McCarren Hall	Front Entrance
GD4-5	Plaster – base	McCarren Hall	Front Entrance
GD4-6	Pipe Insulation – grey	McCarren Hall	1st Floor near Entrance
GD4-7	Sheet Flooring – grey	McCarren Hall	North end of 1st Floor Hall
GD4-8	Plaster – skim	McCarren Hall	2nd Floor
GD4-9	Plaster – base	McCarren Hall	2nd Floor
GD4-10	Roof Sheathing	McCarren Hall	Roof
GD4-11	Plaster – skim	McCarren Hall	2nd Floor
GD4-12	Plaster – base	McCarren Hall	2nd Floor
GD4-13	Blown Insulation	McCarren Hall	Attic
GD4-14	Tectum Roofing	McCarren Hall	Roof
GD4-15	Duct Insulation – white	McCarren Hall	Attic
GD4-16	9" Floor Tile – green	McCarren Hall	3rd Floor
GD4-17	Floor Tile Mastic – black	McCarren Hall	Beneath GD4-16
GD4-18	Pipe Fitting Insulation	McCarren Hall	Basement
GD4-19	Fire Door Insulation	McCarren Hall	Basement
GD5-1	Rock Lathe	West Duplex	W. 2nd Floor
GD5-2	Plaster – skim	West Duplex	W. 2nd Floor
GD5-3	Plaster – base	West Duplex	W. 2nd Floor
GD5-4	Wall Sheathing A= FB B= TB	West Duplex	W. 2nd Floor
GD5-5	Pipe Insulation – white	West Duplex	E. 1st Floor
GD5-6	9" Floor Tile – grey	West Duplex	E. Kitchen
GD5-7	Floor Tile Mastic	West Duplex	Beneath GD5-6
GD5-8	Plaster – skim	West Duplex	E. 1st Floor
GD5-9	Plaster – base	West Duplex	E. 1st Floor
GD5-10	Window Glazing	West Duplex	E. 3rd Floor
GD8-1	Pipe Insulation – white	East Duplex	W. Basement
GD8-2	Pipe Insulation – grey A= Dark B= light	East Duplex	W. Basement
GD8-3	Tank Insulation	East Duplex	W. Basement
GD8-4	Fitting Insulation	East Duplex	W. Basement
GD8-5	Plaster – skim	East Duplex	W. 1st Floor
GD8-6	Plaster – base	East Duplex	W. 1st Floor
GD8-7	Rock Lathe	East Duplex	W. 1st Floor
GD8-8	Plaster – skim	East Duplex	E. 2nd Floor
GD8-9	Plaster – base	East Duplex	E. 2nd Floor
GD8-10	Rock Lathe	East Duplex	E. 2nd Floor
GD8-11	Wall Sheathing A= FB B= TB	East Duplex	E. 2nd Floor
GD8-12	12" Floor Tile – grey and brown	East Duplex	E. Basement
GD8-14	9" Floor Tile – grey	East Duplex	E. Kitchen
GD8-15	Floor Tile Mastic - black	East Duplex	E. Kitchen
GD9-1	12" Floor Tile – tan	Adult Hospital	1st Floor S. End
GD9-2	Floor Tile Mastic – black	Adult Hospital	1st Floor S. End
GD9-3	Plaster – skim	Adult Hospital	1st Floor S. End
GD9-4	Plaster – base	Adult Hospital	1st Floor S. End
GD9-5	2'x4' Ceiling Tile	Adult Hospital	1st Floor S. End
GD9-6	1'x1' Ceiling Tile	Adult Hospital	1st Floor S. End

GD9-7	Brown Mastic Dot	Adult Hospital	1st Floor S. End
GD9-8	9" Floor Tile – green	Adult Hospital	1st Floor S. End
GD9-9	Floor Tile Mastic – black	Adult Hospital	1st Floor S. End
GD9-10 A B	9" Floor Tile – grey A=FT B=M	Adult Hospital	1st Floor S. End
GD9-11	9" Floor Tile – brown	Adult Hospital	1st Floor S. End
GD9-12	Floor Tile Mastic – black	Adult Hospital	1st Floor S. End
GD9-13	Pipe Insulation – white	Adult Hospital	1st Floor S. End
GD9-14	Pipe Insulation – brown	Adult Hospital	1st Floor S. End
GD9-15	9" Floor Tile – grey and brown	Adult Hospital	1st Floor S. End
GD9-16	Floor Tile Mastic – black	Adult Hospital	1st Floor S. End
GD9-17	1x1' Ceiling Tile w/ holes	Adult Hospital	1st Floor Center
GD9-18	Mastic Dot – brown	Adult Hospital	1st Floor Center
GD9-19	1'x1' Ceiling Tile w/ little holes	Adult Hospital	1st Floor Center
GD9-20	9" Floor Tiles – black	Adult Hospital	1st Floor Center
GD9-21	Floor Tile Mastic – black	Adult Hospital	1st Floor Center
GD9-22	9" Floor Tile – grey w/ green streaks	Adult Hospital	1st Floor Center
GD9-23	2x4 Ceiling Tile – green pattern	Adult Hospital	1st Floor Rear Lobby
GD9-24	9" Floor Tile – red not submitted	Adult Hospital	1st Floor Rear Lobby
GD9-25	Cement Partition Wall	Adult Hospital	1st Floor N. Side Balcony
GD9-26	Grey Pipe Wrap	Adult Hospital	1st Floor N. End
GD9-27	Pipe Insulation – white	Adult Hospital	1st Floor N. End
GD9-28	Blown Insulation	Adult Hospital	1st Floor N. End
GD9-29	Pipe Wrap – black	Adult Hospital	1st Floor N. End
GD9-30	Vibration Dampener – grey	Adult Hospital	1st Floor N. End
GD9-31 A B	9" Floor Tile – grey w/ white specks	Adult Hospital	1st Floor N. End
GD9-32	Window Glazing	Adult Hospital	2nd Floor N. End
GD9-33	Black Border Tile	Adult Hospital	2nd Floor Center
GD9-34	Plaster – skim	Adult Hospital	2nd Floor Center
GD9-35	Plaster – base	Adult Hospital	2nd Floor Center
GD9-36	Plaster – skim	Adult Hospital	3rd Floor North Balcony
GD9-37	Plaster – base	Adult Hospital	3rd Floor North Balcony
GD9-38	Pipe Fitting Insulation	Adult Hospital	3rd Floor Center
GD9-39	Window Glazing	Adult Hospital	3rd Floor Center
GD9-40	Fire Door Insulation	Adult Hospital	3rd Floor Center
GD9-41	9" Floor Tile – red	Adult Hospital	3rd Floor Center
GD9-42	Floor Tile Mastic – black	Adult Hospital	3rd Floor Center
GD9-43 A B	9" Floor Tile – grey and black	Adult Hospital	3rd Floor South
GD9-44	Pipe Insulation – cork	Adult Hospital	3rd Floor South
GD9-45	Plaster – skim	Adult Hospital	4th Floor North Balcony
GD9-46	Plaster – base	Adult Hospital	4th Floor North Balcony
GD9-47	Blown Insulation	Adult Hospital	4th Floor North
GD9-48 A B	Sheet Flooring – green A=Vinyl B=Paper	Adult Hospital	4th Floor North
GD9-49	Mastic – black	Adult Hospital	4th Floor North
GD9-50	Terrazzo Floor – beige	Adult Hospital	4th Floor Central
GD9-51	Tan Sheet Flooring	Adult Hospital	4th Floor Central
GD9-52	Mastic	Adult Hospital	4th Floor Central

GD9-54	Roof Sheathing	Adult Hospital	Attic
GD9-55	Black Felt over Fiberglass Duct Ins	Adult Hospital	Attic
GD9-56	Black Coating over Felt	Adult Hospital	Attic
GD9-57	White Coating on FG Duct Ins	Adult Hospital	Attic
GD9-58	White Coating on FG Duct Ins	Adult Hospital	Attic
GD9-59	Vibration Dampener	Adult Hospital	Attic
GD9-60	Blown Insulation	Adult Hospital	Attic
GD9-61	Terrazzo Floor – black	Adult Hospital	5th Floor Central
GD9-62	Insulation under Ventilation Unit	Adult Hospital	5th Floor Central
GD9-63	Transite Hood	Adult Hospital	5th Floor Central
GD9-64	Material inside Exhaust Duct	Adult Hospital	Basement Central
GD9-65	Conduit Lining	Adult Hospital	Basement Central
GD9-66	Pipe Insulation – white	Adult Hospital	Basement Central
GD9-67	Refrigerator Door Gasket	Adult Hospital	Basement Central
GD9-68	12" Floor Tile – brown streaks	Adult Hospital	Basement Central
GD9-69	Floor Tile Mastic – black	Adult Hospital	Basement Central
GD9-70	Tank Insulation	Adult Hospital	Sub-basement
GD9-71	Acoustical Surfacing on CMU wall	Adult Hospital	Basement North
GD9-72	Tank Insulation	Adult Hospital	Sub-basement
GD9-73	Pipe Fitting Insulation	Adult Hospital	Basement North
GD9-74	Drywall inside acoustical booth	Adult Hospital	Basement North
GD9-75	Acoustical Surfacing on CMU wall	Adult Hospital	Basement North
GD9-76	Insulation Pin Mastic	Adult Hospital	Basement North
GD10-1	Air Conditioning Base	Warehouse and Garage	SE Shop
GD10-2	9" Tile – green	Warehouse and Garage	SE Shop
GD10-3	Floor Tile Mastic – black	Warehouse and Garage	SE Shop
GD10-4	Pipe Insulation – white	Warehouse and Garage	SE Shop
GD10-5	Fitting Insulation	Warehouse and Garage	NE Shop
GD10-6	Brown Mastic Dot	Warehouse and Garage	Office
GD10-7	1'x1' Ceiling Tile	Warehouse and Garage	Office
GD10-8	12" Floor Tile – beige	Warehouse and Garage	Office
GD10-9	Floor Tile Mastic – black	Warehouse and Garage	Office
GD10-10	2'x4' Ceiling Tile	Warehouse and Garage	Office
GD10-11	Plaster – skim	Warehouse and Garage	Office Bathroom
GD10-12	Plaster – base	Warehouse and Garage	Office Bathroom
GD10-13	Ceiling Plaster	Warehouse and Garage	Bathroom
GD10-14	Pipe Insulation – white	Warehouse and Garage	Main Shop
GD10-15	Tank Insulation – white	Warehouse and Garage	Garage
GD10-16	Tank Insulation - grey	Warehouse and Garage	Garage
GD11-1	Stack Insulation	Heating Plant	E. Boiler
GD11-2	Insulation on end of boiler	Heating Plant	Middle Boiler
GD11-3	Pipe Fitting Insulation	Heating Plant	Above E. Boiler
GD11-4	Pipe Insulation Wrap	Heating Plant	Above E. Boiler
GD11-5	Tank Insulation – grey	Heating Plant	Tank
GD11-6	Tank Insulation – white	Heating Plant	Tank
GD11-7	Fitting Insulation	Heating Plant	Near Tank

GD11-8	Stack Insulation	Heating Plant	Above Middle Boiler
GD11-9	Fitting Insulation	Heating Plant	Valve Above Middle Boiler
GD11-10	Boiler Insulation	Heating Plant	Around small square opening
GD11-11	Interior Boiler Mortar	Heating Plant	Middle Boiler
GD11-12	Stack Insulation	Heating Plant	W. Boiler
GD11-13	Tan 9" Floor Tile	Heating Plant	Upper Room
GD11-14	Floor Tile Mastic – black	Heating Plant	Upper Room
GD11-15	9" Floor Tile – green	Heating Plant	Upper Room
GD11-16	Pipe Insulation – white	Heating Plant	North side
GD11-17	Pipe Insulation – white	Heating Plant	East Side
GD11-18	Chimney Brink	Heating Plant	Chimney
GD11-19	Chimney Mortar	Heating Plant	Chimney
GD14-1	Window Glazing	Water Softening House	Window
GD15-1	Window Glazing	Pump House	Window
GD16-1	9" Floor Tile – brown	Finucane Hall	1st Floor
GD16-2	Floor Tile Mastic – black	Finucane Hall	1st Floor
GD16-3	9" Floor Tile – green	Finucane Hall	1st Floor
GD16-4	Floor Tile Mastic – black	Finucane Hall	1st Floor
GD16-5	Pipe Insulation – white	Finucane Hall	1st Floor
GD16-6	Pipe Insulation – grey	Finucane Hall	1st Floor
GD16-7	Pipe Fitting Insulation	Finucane Hall	1st Floor
GD16-8	Plaster – skim	Finucane Hall	1st Floor
GD16-9	Plaster – base	Finucane Hall	1st Floor
GD16-10	12" Floor Tile –tan	Finucane Hall	1st Floor
GD16-11	Floor Tile Mastic – black	Finucane Hall	1st Floor
GD16-12	Black Felt beneath Tile	Finucane Hall	1st Floor
GD16-13	Attic Insulation	Finucane Hall	3rd Floor
GD16-14	Concrete Ceiling	Finucane Hall	3rd Floor Solarium
GD16-15	Window Glazing	Finucane Hall	3rd Floor Solarium
GD16-16	Plaster – skim	Finucane Hall	1st Floor
GD16-17	Plaster – base	Finucane Hall	1st Floor
GD16-18	Blown Insulation	Finucane Hall	3rd Floor back hallway
GD16-19	9" Floor Tile – black	Finucane Hall	3rd Floor
GD16-20	Tank Insulation – white	Finucane Hall	Basement
GD16-21	Tank Insulation – grey	Finucane Hall	Basement
GD17-1	Stack Insulation Wrap	Laundry	Little Dryer
GD17-2	Black Felt over Stack insulation	Laundry	Little Dryer
GD17-3	Grey Stack Insulation	Laundry	Big Dryer
GD17-4	Pipe Fitting Insulation	Laundry	Main Area
GD17-5	Pipe Insulation – white	Laundry	Main Area
GD17-6	Window Glazing	Laundry	Main Area
GD17-7	Ceiling Plaster	Laundry	Bathroom
GD17-8	Joint Compound	Laundry	Office
GD17-9	Drywall	Laundry	Office
GD17-10	Fitting Insulation	Laundry	Crawlspace
GD18-1	Plaster – skim	Gibson Hall	Rm 211

GD18-2	Plaster – base	Gibson Hall	Rm 211
GD18-3	Blown Insulation	Gibson Hall	Rm 211
GD18-4	Grey Pipe Wrap	Gibson Hall	Basement
GD18-5	Pipe Insulation – grey	Gibson Hall	Basement
GD18-6	Pipe Insulation - white	Gibson Hall	Basement
GD19-1	Window Glazing	Hot House	Window
GD20-1	Rock lathe	Apartment 1	Debris Pile
GD20-2	Plaster – skim	Apartment 1	Debris Pile
GD20-3	Plaster – base	Apartment 1	Debris Pile
GD21-1	Pipe Fitting Insulation	Apartment 2	2nd Floor
GD21-2	Grey Pipe Wrap	Apartment 2	2nd Floor
GD21-3	Pipe Insulation – brown	Apartment 2	2nd Floor
GD21-4	Plaster – skim	Apartment 2	2nd Floor
GD21-5	Plaster – base	Apartment 2	2nd Floor
GD21-6	Rock Lathe	Apartment 2	2nd Floor
GD21-7	Window Glazing	Apartment 2	2nd Floor
GD21-8	Fire Door Insulation	Apartment 2	2nd Floor
GD21-9	Plaster – skim	Apartment 2	1st Floor
GD21-10	Plaster – base	Apartment 2	1st Floor
GD21-11	Tank Insulation	Apartment 2	Basement
GD21-12	Surfacing on Ceiling	Apartment 2	Basement
GD21-13	Air-o-Cell Pipe Insulation	Apartment 2	Basement
GD21-14	Fitting Insulation	Apartment 2	Basement
GD21-15	9" Floor Tile – tan	Apartment 2	2nd Floor Balcony
GD21-16	Floor Tile Mastic – black	Apartment 2	2nd Floor Balcony
GD21-17	2x4 Ceiling Tile	Apartment 2	2nd Floor Balcony
GD21-18	Black Cove Base	Apartment 2	2nd Floor Balcony
GD21-19	Covebase Mastic	Apartment 2	2nd Floor Balcony
GD21-20	Surfacing on stairwell wall	Apartment 2	2nd Floor Balcony
GD21-21	Surfacing on stairwell wall	Apartment 2	2nd Floor Balcony Stairwell
GD22-1	Transite Ceiling	Paint Shop	Ceiling
GD22-2	Grey Pipe Wrap	Paint Shop	Paint Booth room
GD22-3	Pipe Insulation – brown	Paint Shop	Paint Booth room
GD22-4	Pipe Fitting Insulation	Paint Shop	Paint Booth room
GD22-5	Window Glazing	Paint Shop	Paint Booth room
GD23-1	Incinerator Door	Incinerator	Incinerator Door
GD23-2	Fire Brick	Incinerator	Top of incinerator
GD23-3	Fire Brick	Incinerator	Wall of incinerator at top
GD23-4	Mortar	Incinerator	Wall of incinerator at top
GD23-5	Corrugated Siding	Incinerator	Wall of building
GD23-6	Transite panels	Incinerator	Door of building
GD23-7	Fire Brink	Incinerator	Chimney
GD23-8	Fire Brick	Incinerator	Bottom of incinerator

AMA Analytical Services, Inc.
Focused on Results www.amalab.com
AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) 222326

Mailing/Billing Information:
1. Client Name: KCI TECHNOLOGIES
2. Address 1: 936 RIDGEBROOK RD
3. Address 2: SPARKS MD 21152
4. Address 3:
5. Phone #: 410 891 1811 Fax #:

Submittal Information:
1. Job Name: GLENN DALE
2. Job Location:
3. Job #: 27122989 P.O. #:
4. Contact Person: JOSH @ phone # 443 562 9646
5. Submitted by: JOSH Signature:

Reporting Info (Results provided as soon as technically feasible). If no TAT/Reporting Info is provided, AMA will assign defaults of 5-Day and email/fax to contacts on file.

AFTER HOURS (must be pre-scheduled)	NORMAL BUSINESS HOURS	REPORT TO:
☐ Immediate Date Due:	☐ Immediate ☐ 3 Day	☒ Include COC/Field Data Sheets with Report
☐ 24 Hours Time Due:	☐ Next Day ☒ 5 Day +	☐ Email: johnjulus@kci.com
Comments:	☐ 2 Day Date Due: 1/17/13	☐ Fax:
	☐ Results Required By Noon	☐ Verbals:

Asbestos Analysis
*PCM Air – Please Indicate Filter Type:
- ☐ NIOSH 7400 ____ (QTY)
- ☐ Fiberglass ____ (QTY)

TEM Air* – Please Indicate Filter Type:
- ☐ AHERA ____ (QTY)
- ☐ NIOSH 7402 ____ (QTY)
- ☐ Other (specify ____) ____ (QTY)

PLM Bulk
- ☒ EPA 600 – Visual Estimate 275 (QTY) 284
- ☐ EPA Point Count ____ (QTY)
- ☐ NY State Friable 198.1 ____ (QTY)
- ☐ Grav. Reduction ELAP 198.6 ____ (QTY)
- ☐ Other (specify ____) ____ (QTY)

MISC
- ☐ Vermiculite
- ☐ Asbestos Soil PLM__(Qual) PLM__(Quan) PLM/TEM__(Qual) PLM/TEM__(Quan)

*It is recommended that blank samples be submitted with all air and surface samples

TEM Bulk
- ☐ ELAP 198.4/Chatfield ____ (QTY)
- ☐ NY State PLM/TEM ____ (QTY)
- ☐ Residual Ash ____ (QTY)

TEM Dust*
- ☐ Qual. (pres/abs) Vacuum/Dust ____ (QTY)
- ☐ Quan. (s/area) Vacuum D5755-95 ____ (QTY)
- ☐ Quan. (s/area)Dust D6480-99 ____ (QTY)

TEM Water
- ☐ Qual. (pres/abs) ____ (QTY)
- ☐ ELAP 198.2/EPA 100.2 ____ (QTY)
- ☐ EPA 100.1 ____ (QTY)

☒ All samples received in good condition unless otherwise noted. (TEM Water samples ____ °C)

If field data sheets are submitted, there is no need to complete bottom section.

Metals Analysis
- ☐ Pb Paint Chip ____ (QTY)
- ☐ *Pb Dust Wipe (wipe type ____) ____ (QTY)
- ☐ *Pb Air ____ (QTY)
- ☐ Pb Soil/Solid ____ (QTY)
- ☐ Pb TCLP ____ (QTY)
- ☐ Drinking Water ☐ Pb____(QTY) ☐ Cu____(QTY) ☐ As____(QTY)
- ☐ Waste Water ☐ Pb____(QTY) ☐ Cu____(QTY) ☐ As____(QTY)
- ☐ Pb Furnace (Media ____) ____ (QTY)

Fungal Analysis
Collection Apparatus for Spore Traps/Air Samples: ____
Collection Media ____
- ☐ *Spore-Trap ____ (QTY)
- ☐ *Surface Swab ____ (QTY)
- ☐ *Surface Tape ____ (QTY)
- ☐ Other (Specify ____) ____ (QTY)
- ☐ Surface Vacuum Dust ____ (QTY)
- ☐ Culturable ID Genus (Media ____) ____ (QTY)
- ☐ Culturable ID Species (Media ____) ____ (QTY)

SAMPLE INFORMATION: CLIENT ID #	SAMPLE LOCATION/ ID	DATE/ TIME	VOL (L)/ Wipe Area	ANALYSIS: TEM	PCM	PLM	LEAD	MOLD	MATRIX: AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	CLIENT CONTACT (LABORATORY STAFF ONLY)
																Date/Time: Contact: By:
	PLEASE SEE ATTACHED															
																Date/Time: Contact: By:
																Date/Time: Contact: By:

LABORATORY STAFF ONLY: (CUSTODY)
1. Date/Time RCVD: 1/10/13 @ 0845 Via: Fedex By (Print): David Hutton Sign:
2. Date/Time Analyzed: 1/17/13 @ ____ By (Print): Surat/Peeyawut Sign:
3. Results Reported To: Josh Via: Email Date: 1/17/13 Time: ____ Initials: PC.SW
4. Comments: PLEASE 9083 4190

AMA Analytical Services, Inc.

A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NY ELAP
10920

Client:	KCI Technologies, Inc.	**Job Name:**	Re-Analysis by TEM from COC 222326	**Chain of Custody:**	232976
Address:	936 Ridgebrook Road	**Job Location:**	Glenn Dale	**Date Analyzed:**	1/29/2013
	Sparks, Maryland 21152	**Job Number:**	27122989	**Person Submitting:**	Josh Julius
		P.O. Number:	Not Provided		
Attention:	Josh Julius				

Summary of Asbestos Analysis of Non-Friable Organically Bound (NOB) Bulk Samples

AMA Sample Number	Client Sample #	Sample Type *	% Total Asbestos **	% Asbestos by PLM ***	% Asbestos by TEM ***	Type(s) of Asbestos	% Organics	% Acid Soluble	% Other	Material Type	Sample Color	Comments
13031331	GD22-5 13028463	Whole	5.3%	N/A	5.3%		4.5%	74.3%	15.9%	Caulk	White	
13031332	GD14-1 13028394	Whole	2.1%	N/A	2.1%		2.2%	87.0%	8.6%	Caulk	White	

* Whole = Whole sample submitted and gravimetric reduction performed by AMA Analytical Services Residue = Gravimetric reduction of sample performed by client and residue only submitted for analysis.

** NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"

*** PLM = Polarized Light Microscopy after gravimetric reduction (NY ELAP Method 198.6) TEM = Transmission Electron Microscopy after gravimetric reduction (NY ELAP Method 198.4)

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

Technical Director: Andreas Saldivar

Analyst(s): Robert Privette

NY ELAP (#10920) Accredited Laboratory

4475 Forbes Blvd. · Lanham, MD, 20706 · (301) 459-2640 · Toll Free (800) 346-0961 · Fax (301) 459-2643

AMA Analytical Services, Inc.
Focused on Results www.amalab.com
AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) 232976

Mailing/Billing Information:
1. Client Name: KCI
2. Address 1:
3. Address 2:
4. Address 3:
5. Phone #: Fax #:

Submittal Information:
1. Job Name: Re-analysis by TEM from COC 222326
2. Job Location: Glenn Dale
3. Job #: 27122989 P.O. #:
4. Contact Person: Josh Julius @ phone #
5. Submitted by: " Signature:

Reporting Info (Results provided as soon as technically feasible). If no TAT/Reporting Info is provided, AMA will assign defaults of 5-Day and email/fax to contacts on file.

AFTER HOURS (must be pre-scheduled)
- ☐ Immediate Date Due:
- ☐ 24 Hours Time Due:
- Comments:

NORMAL BUSINESS HOURS
- ☐ Immediate ☐ 3 Day
- ☐ Next Day ☒ 5 Day + Date Due: 1/30/13
- ☐ 2 Day
- ☐ Results Required By Noon

REPORT TO:
- ☒ Include COC/Field Data Sheets with Report
- ☒ Email: joshua.julius@kci.com
- ☐ Fax:
- ☐ Verbals:

Asbestos Analysis
*PCM Air – Please Indicate Filter Type:
- ☐ NIOSH 7400 (QTY)
- ☐ Fiberglass (QTY)

TEM Air* – Please Indicate Filter Type:
- ☐ AHERA (QTY)
- ☐ NIOSH 7402 (QTY)
- ☐ Other (specify) (QTY)

PLM Bulk
- ☐ EPA 600 – Visual Estimate (QTY)
- ☐ EPA Point Count (QTY)
- ☐ NY State Friable 198.1 (QTY)
- ☐ Grav. Reduction ELAP 198.6 (QTY)
- ☐ Other (specify) (QTY)

MISC
- ☐ Vermiculite
- ☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

*It is recommended that blank samples be submitted with all air and surface samples

TEM Bulk
- ☒ ELAP 198.4/Chatfield 2 (QTY)
- ☐ NY State PLM/TEM (QTY)
- ☐ Residual Ash (QTY)

TEM Dust*
- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
- ☐ Quan. (s/area) Vacuum D5755-95 (QTY)
- ☐ Quan. (s/area)Dust D6480-99 (QTY)

TEM Water
- ☐ Qual. (pres/abs) (QTY)
- ☐ ELAP 198.2/EPA 100.2 (QTY)
- ☐ EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted. (TEM Water samples °C)

If field data sheets are submitted, there is no need to complete bottom section.

Metals Analysis
- ☐ Pb Paint Chip (QTY)
- ☐ *Pb Dust Wipe (wipe type) (QTY)
- ☐ *Pb Air (QTY)
- ☐ Pb Soil/Solid (QTY)
- ☐ Pb TCLP (QTY)
- ☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Pb Furnace (Media) (QTY)

Fungal Analysis
Collection Apparatus for Spore Traps/Air Samples:
Collection Media
- ☐ *Spore-Trap (QTY)
- ☐ *Surface Swab (QTY)
- ☐ *Surface Tape (QTY)
- ☐ Other (Specify) (QTY)
- ☐ Surface Vacuum Dust (QTY)
- ☐ Culturable ID Genus (Media) (QTY)
- ☐ Culturable ID Species (Media) (QTY)

SAMPLE INFORMATION / ANALYSIS / MATRIX

CLIENT ID #	SAMPLE LOCATION/ ID	DATE/ TIME	VOL (L)/ Wipe Area	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB
GD22-5	13028463														
GD14-1	13028394														
Original analysis completed															
on 1/17/13	by SW														

CLIENT CONTACT (LABORATORY STAFF ONLY)

Date/Time:	Contact:	By:
Date/Time:	Contact:	By:
Date/Time:	Contact:	By:

LABORATORY STAFF ONLY: (CUSTODY)
1. Date/Time RCVD: 1 / 23 / 13 @ 0800 Via: EMAIL By (Print): NEM Sign:
2. Date/Time Analyzed: 1 / 29 / 13 @ 2000 By (Print): R PAVETTE Sign:
3. Results Reported To: J.J. Via: email Date: 1 / 29 / 13 Time: 2045 Initials:
4. Comments:

AMA Analytical Services, Inc.

A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NVLAP 101143-0

Client:	KCI Technologies, Inc.	**Job Name:**	Glenn Dale	**Chain Of Custody:**	222325
Address:	936 Ridgebrook Road	**Job Location:**	Not Provided	**Date Analyzed:**	1/30/2013
	Sparks, Maryland 21152	**Job Number:**	27122989	**Person Submitting:**	Josh Julius
		P.O. Number:	Not Provided		

Attention: Josh Julius

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
13031345	GD1-10	NAD	--	--	--	--	--	--	--	--	--	100	WG	Multi	Homogeneous	SW	
13031346	GD1-11	NAD	--	--	--	--	--	--	TR	--	--	100	PL	White	Homogeneous	SW	
13031347	GD1-12	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	SW	
13031348	GD1-13	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	
13031349	GD1-14	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Gray	Homogeneous	SW	
13031350	GD1-15	10	10	--	--	--	--	--	TR	--	--	90	SD	Gray	Homogeneous	SW	
13031351	GD1-16	20	5	15	--	--	--	--	--	--	--	80	TSI	White	Homogeneous	SW	
13031352	GD2-28	20	5	15	--	--	--	--	--	--	--	80	TSI	White	Homogeneous	SW	
13031353	GD2-29	17	2	15	--	--	--	--	--	--	--	83	FI	White	Homogeneous	SW	
13031354	GD3-8	65	65	--	--	--	--	--	--	--	--	35	TSI	Gray	Homogeneous	SW	
13031355	GD4-20	NAD	--	--	--	--	--	--	30	--	--	70	Tar P.	Black	Homogeneous	SW	
13031356	GD4-21	NAD	--	--	--	--	10	--	10	--	2	78	TSI	Beige	Homogeneous	SW	

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A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NVLAP 101143-0

Client:	KCI Technologies, Inc.	**Job Name:**	Glenn Dale	**Chain Of Custody:**	222325
Address:	936 Ridgebrook Road	**Job Location:**	Not Provided	**Date Analyzed:**	1/30/2013
	Sparks, Maryland 21152	**Job Number:**	27122989	**Person Submitting:**	Josh Julius
		P.O. Number:	Not Provided		
Attention:	Josh Julius				

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments

The following footnotes only apply to those samples which the total asbestos result is flagged with a note number.

1 TEM RECOMMENDATION - Please note, due to resolution limitations with optical microscopy and/or interference from matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos. It is recommended that the additional analytical technique of TEM be used to check for asbestos fibers below the resolution limits of optical microscopy.

2 MATRIX REDUCTION RECOMMENDATION - Please note, due to interference from the matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos which is obscured from view. It is recommended that the additional preparation technique of gravimetric reduction be performed on this sample to minimize the obscuring effects of matrix components, followed by reanalysis by PLM and/or TEM.

Analysis Method - EPA/600/R-93/116 dated July 1993

NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"

Uncertainty: For samples containing asbestos in range of 1-10%
the CV is 0.43, 11-35% CV=0.55, >35 CV=0.23

All results are to be considered preliminary and subject to change
unless signed by the Technical Director or Deputy.

Technical Director Peerawut Chaikeenee **Analyst(s)** Surat Watson

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Focused on Results www.amalab.com
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4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) 222325

Mailing/Billing Information:
1. Client Name: KCI Technologies
2. Address 1: 936 Ridgebrook rd
3. Address 2: Sparks MD 21152
4. Address 3:
5. Phone #: 410-891-1811 Fax #:

Submittal Information:
1. Job Name: Glenn Dale
2. Job Location:
3. Job #: 27122989 P.O. #:
4. Contact Person: Josh @ phone # 443-562-9646
5. Submitted by: Jon Signature:

Reporting Info (Results provided as soon as technically feasible). If no TAT/Reporting Info is provided, AMA will assign defaults of 5-Day and email/fax to contacts on file.

AFTER HOURS (must be pre-scheduled)	NORMAL BUSINESS HOURS	REPORT TO:
☐ Immediate Date Due:	☐ Immediate ☐ 3 Day	☐ Include COC/Field Data Sheets with Report
☐ 24 Hours Time Due:	☐ Next Day ☒ 5 Day +	☐ Email: @
Comments:	☐ 2 Day Date Due: 1/31/13	☐ Fax:
	☐ Results Required By Noon	☐ Verbals:

Asbestos Analysis
*PCM Air – Please Indicate Filter Type:
- ☐ NIOSH 7400 (QTY)
- ☐ Fiberglass (QTY)

TEM Air* – Please Indicate Filter Type:
- ☐ AHERA (QTY)
- ☐ NIOSH 7402 (QTY)
- ☐ Other (specify) (QTY)

PLM Bulk
- ☒ EPA 600 – Visual Estimate 12 (QTY)
- ☐ EPA Point Count (QTY)
- ☐ NY State Friable 198.1 (QTY)
- ☐ Grav. Reduction ELAP 198.6 (QTY)
- ☐ Other (specify) (QTY)

MISC
- ☐ Vermiculite
- ☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

*It is recommended that blank samples be submitted with all air and surface samples

TEM Bulk
- ☐ ELAP 198.4/Chatfield (QTY)
- ☐ NY State PLM/TEM (QTY)
- ☐ Residual Ash (QTY)

TEM Dust*
- ☐ Qual. (pres/abs) Vacuum/Dust (QTY)
- ☐ Quan. (s/area) Vacuum D5755-95 (QTY)
- ☐ Quan. (s/area)Dust D6480-99 (QTY)

TEM Water
- ☐ Qual. (pres/abs) (QTY)
- ☐ ELAP 198.2/EPA 100.2 (QTY)
- ☐ EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted.
(TEM Water samples °C)

If field data sheets are submitted, there is no need to complete bottom section.

Metals Analysis
- ☐ Pb Paint Chip (QTY)
- ☐ *Pb Dust Wipe (wipe type) (QTY)
- ☐ *Pb Air (QTY)
- ☐ Pb Soil/Solid (QTY)
- ☐ Pb TCLP (QTY)
- ☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
- ☐ Pb Furnace (Media) (QTY)

Fungal Analysis
Collection Apparatus for Spore Traps/Air Samples:
Collection Media
- ☐ *Spore-Trap (QTY)
- ☐ *Surface Swab (QTY)
- ☐ *Surface Tape (QTY)
- ☐ Other (Specify) (QTY)
- ☐ Surface Vacuum Dust (QTY)
- ☐ Culturable ID Genus (Media) (QTY)
- ☐ Culturable ID Species (Media) (QTY)

CLIENT ID #	SAMPLE INFORMATION SAMPLE LOCATION/ID	DATE/ TIME	VOL (L)/ Wipe Area	ANALYSIS TEM	PCM	PLM	LEAD	MOLD	MATRIX AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB
GD1-10	Window Glazing														
GD1-11	Plaster-skim														
GD1-12	Plaster-Base														
GD1-13	Plaster-skim														
GD1-14	Plaster-Base														
GD1-15	Siding														
GD1-16	Tank Insul.														
GD2-28	Tank Insul.														
GD2-29	Fire Door														
GD3-8	Tank Ins.														
GD4-20	Tar Paper														
GD4-21	Tank Insul.														

CLIENT CONTACT (LABORATORY STAFF ONLY)

Date/Time:	Contact:	By:
Date/Time:	Contact:	By:
Date/Time:	Contact:	By:

LABORATORY STAFF ONLY: (CUSTODY)
1. Date/Time RCVD: 1/24/13 @1000 Via: Fedex By (Print): NM Sign:
2. Date/Time Analyzed: 1/30/13 @ By (Print): Surat Watson Sign:
3. Results Reported To: Josh Via: Email Date: 1/30/13 Time: Initials: SW
4. Comments: 8985 9983 4170

AMA Analytical Services, Inc.

A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NVLAP 101143-0

Client:	KCI Technologies, Inc.	**Job Name:**	Glendale	**Chain Of Custody:**	233053
Address:	936 Ridgebrook Road	**Job Location:**	Not Provided	**Date Analyzed:**	2/6/2013
	Sparks, Maryland 21152	**Job Number:**	Not Provided	**Person Submitting:**	Jon Coale
		P.O. Number:	Not Provided		
Attention:	Josh Julius				

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
13033439	GD17-11	NAD	--	--	--	--	--	--	--	--	2	98	GZ	Gray	Homogeneous	SW	
13033440	GD11-20	15	15	--	--	--	--	--	--	--	--	85	Transite	Gray	Homogeneous	SW	
13033441	GD10-17	2	2	--	--	--	--	--	--	--	--	98	WG	White	Homogeneous	SW	
13033442	GD10-18	NAD	--	--	--	--	--	--	TR	--	--	100	FD	White	Homogeneous	SW	
13033443	GD9-77	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	SW	

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CERTIFICATE OF ANALYSIS

NVLAP 101143-0

Client:	KCI Technologies, Inc.	**Job Name:**	Glendale	**Chain Of Custody:**	233053
Address:	936 Ridgebrook Road	**Job Location:**	Not Provided	**Date Analyzed:**	2/6/2013
	Sparks, Maryland 21152	**Job Number:**	Not Provided	**Person Submitting:**	Jon Coale
		P.O. Number:	Not Provided		

Attention: Josh Julius

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments

The following footnotes only apply to those samples which the total asbestos result is flagged with a note number.

1 TEM RECOMMENDATION - Please note, due to resolution limitations with optical microscopy and/or interference from matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos. It is recommended that the additional analytical technique of TEM be used to check for asbestos fibers below the resolution limits of optical microscopy.

2 MATRIX REDUCTION RECOMMENDATION - Please note, due to interference from the matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos which is obscured from view. It is recommended that the additional preparation technique of gravimetric reduction be performed on this sample to minimize the obscuring effects of matrix components, followed by reanalysis by PLM and/or TEM.

Analysis Method - EPA/600/R-93/116 dated July 1993

NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"

Uncertainty: For samples containing asbestos in range of 1-10% the CV is 0.43, 11-35% CV=0.55, >35 CV=0.23

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

Technical Director Peerawut Chaikeenee

Analyst(s) Surat Watson

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CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) 233053

Mailing/Billing Information:
1. Client Name: KCI Technologies
2. Address 1: 936 Ridgebrook Rd
3. Address 2: Sparks MD 21152
4. Address 3:
5. Phone #: Fax #:

Submittal Information:
1. Job Name: Glenndale
2. Job Location:
3. Job #: P.O. #:
4. Contact Person: Josh Julius @ phone # 443-562-9646
5. Submitted by: Jon Cook Signature: Jon Cook

Reporting Info (Results provided as soon as technically feasible). If no TAT/Reporting Info is provided, AMA will assign defaults of 5-Day and email/fax to contacts on file.

AFTER HOURS (must be pre-scheduled)
☐ Immediate Date Due:
☐ 24 Hours Time Due:
Comments:

NORMAL BUSINESS HOURS
☐ Immediate ☐ 3 Day ☐ Results Required By Noon
☐ Next Day ☒ 5 Day + Date Due: 2/7/13
☐ 2 Day

REPORT TO:
☒ Include COC/Field Data Sheets with Report
☒ Email: Joshua.Julius@kcI.com
☐ Fax:
☐ Verbals:

Asbestos Analysis
*PCM Air – Please Indicate Filter Type:
☐ NIOSH 7400 (QTY)
☐ Fiberglass (QTY)
TEM Air* – Please Indicate Filter Type:
☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) (QTY)
PLM Bulk
☒ EPA 600 – Visual Estimate 5 (QTY)
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) (QTY)
MISC
☐ Vermiculite
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)
*It is recommended that blank samples be submitted with all air and surface samples

TEM Bulk
☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)
TEM Dust*
☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area)Dust D6480-99 (QTY)
TEM Water
☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted.
(TEM Water samples ℃)

If field data sheets are submitted, there is no need to complete bottom section.

Metals Analysis
☐ Pb Paint Chip (QTY)
☐ *Pb Dust Wipe (wipe type) (QTY)
☐ *Pb Air (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Pb Furnace (Media) (QTY)
Fungal Analysis
Collection Apparatus for Spore Traps/Air Samples:
Collection Media
☐ *Spore-Trap (QTY) ☐ Surface Vacuum Dust (QTY)
☐ *Surface Swab (QTY) ☐ Culturable ID Genus (Media) (QTY)
☐ *Surface Tape (QTY) ☐ Culturable ID Species (Media) (QTY)
☐ Other (Specify) (QTY)

CLIENT ID #	SAMPLE INFORMATION SAMPLE LOCATION/ ID	DATE/ TIME	VOL (L)/ Wipe Area	ANALYSIS: TEM	PCM	PLM	LEAD	MOLD	AIR	MATRIX: BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	CLIENT CONTACT (LABORATORY STAFF ONLY)
GD17-11	Glazing					X				X						Date/Time: Contact: By:
GD11-20	Transite					X				X						
GD10-17	Window Glazing					X				X						
GD10-18	Fire Door					X				X						
GD9-77	Ornamental Plaster					X				X						Date/Time: Contact: By:
																Date/Time: Contact: By:

LABORATORY STAFF ONLY: (CUSTODY)
1. Date/Time RCVD: 1/31/13 @ 915 Via: Tom By (Print): NRN Sign:
2. Date/Time Analyzed: 2/5/13 @ By (Print): Surat Watson Sign:
3. Results Reported To: Josh Julius Via: Email Date: 2/5/13 Time: Initials: SW
4. Comments:

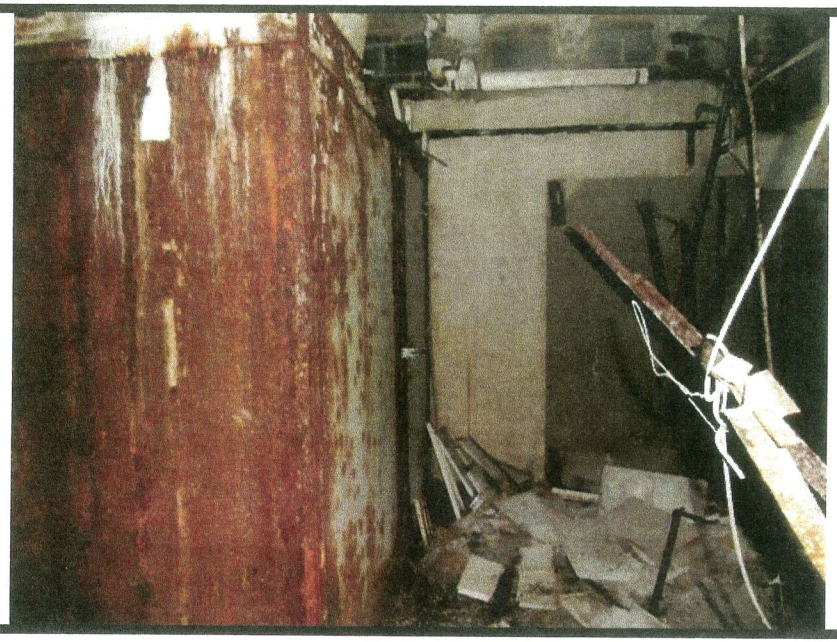
APPENDIX C:
PHOTOGRAPHS

Asbestos-Containing Duct Insulation Coating in Attic of Building 9

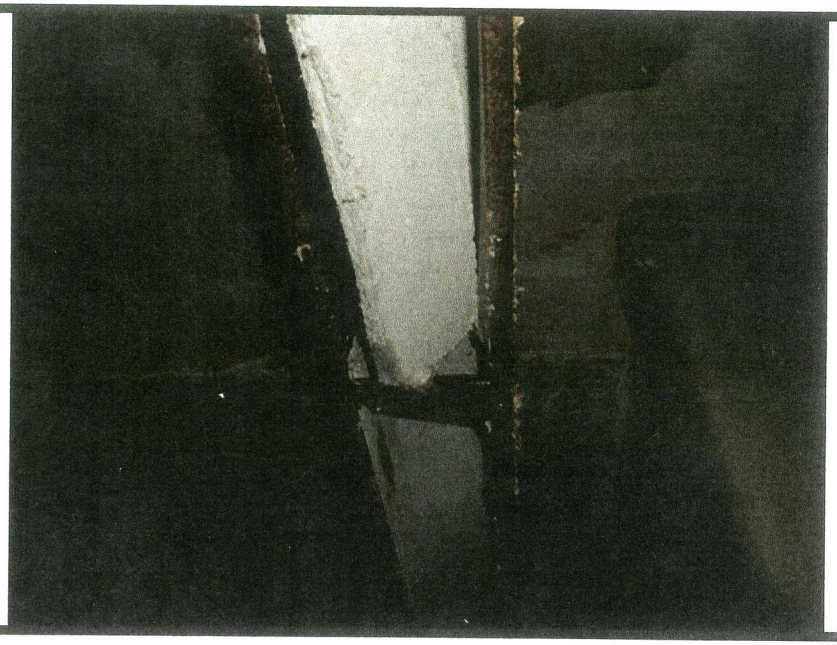
Asbestos-Containing Transite Hoods in 5th Floor Labs of Building 9

Steam Tunnel with 2 Steam Pipes Heading Northwest from Building 9

Steam Tunnels with 2 Steam Pipes Heading Southwest and Northwest from South End of Building 4



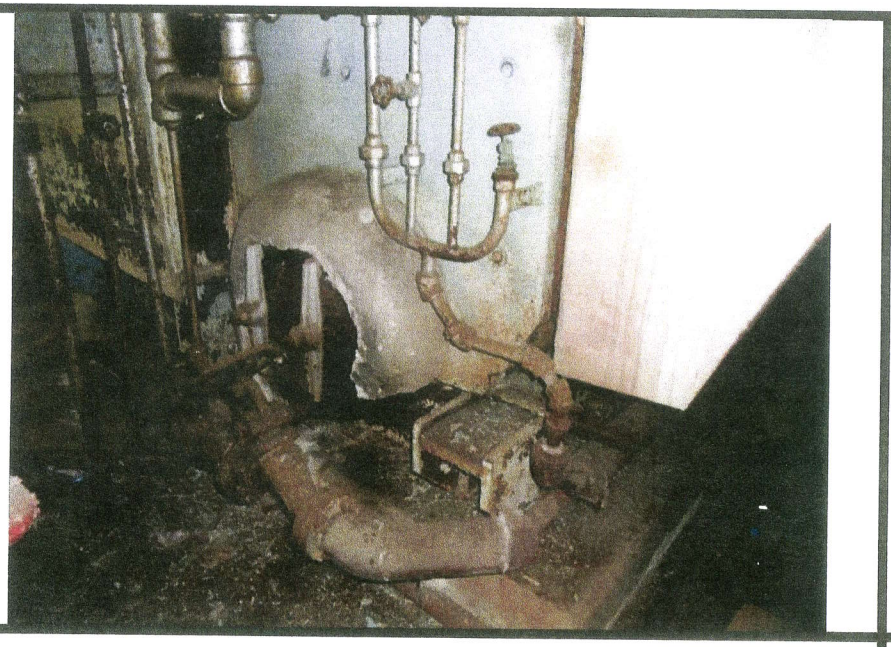
Asbestos-Containing Acoustical Surfacing in Soundproof Room in Basement of Building 9



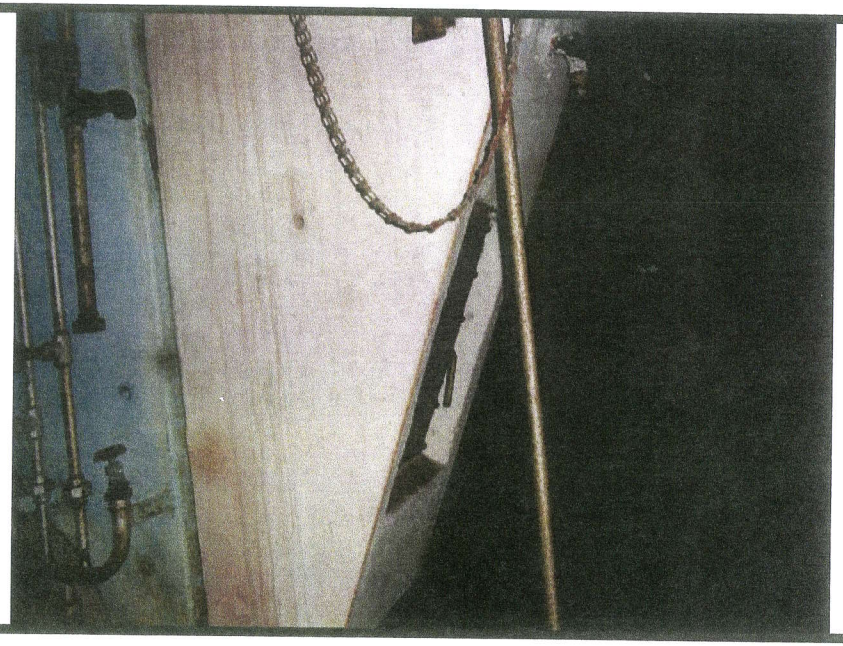
Asbestos-Containing Conduit Insulation in Kitchen in Basement of Building 9

Asbestos-Containing Transite Siding and Roofing on Incinerator (Building 23)

Asbestos-Containing Black Coating over Fiberglass Duct Insulation in Attic of Building 9

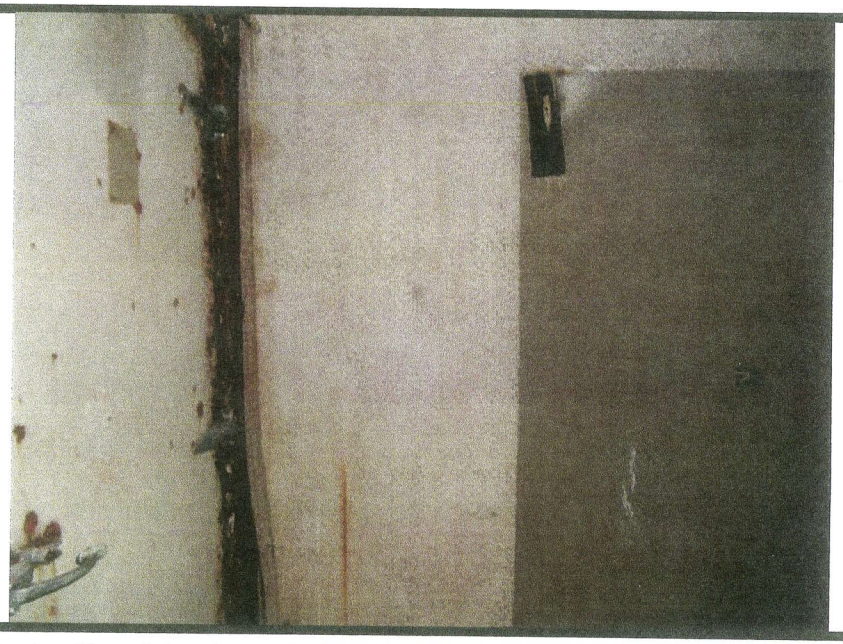


Asbestos-Containing Boiler Insulation (Building 11)

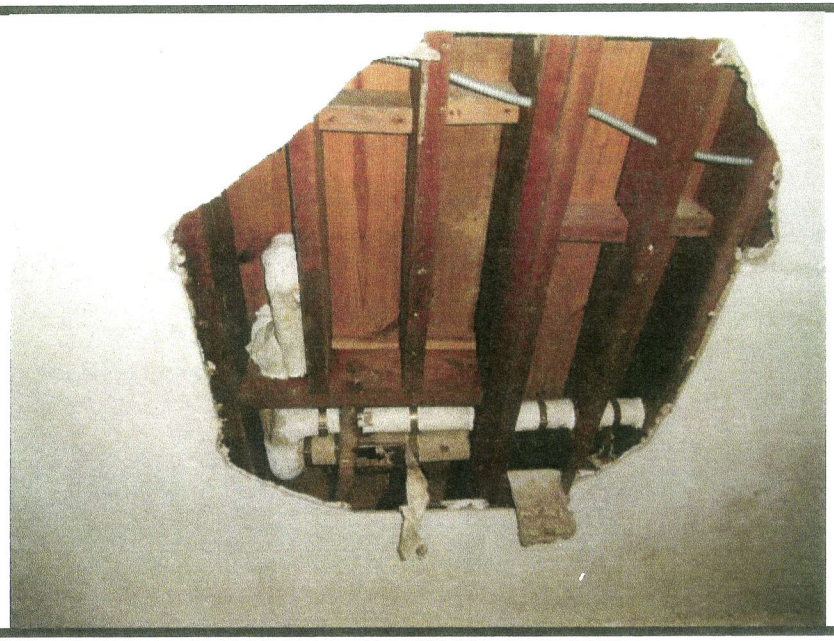


Asbestos-Containing Stack Insulation (Building 11)

Building Not Previously Identified (No Asbestos-Containing Materials)



Asbestos-Containing Acoustical Surfacing in Soundproof Room in Basement of Building 9

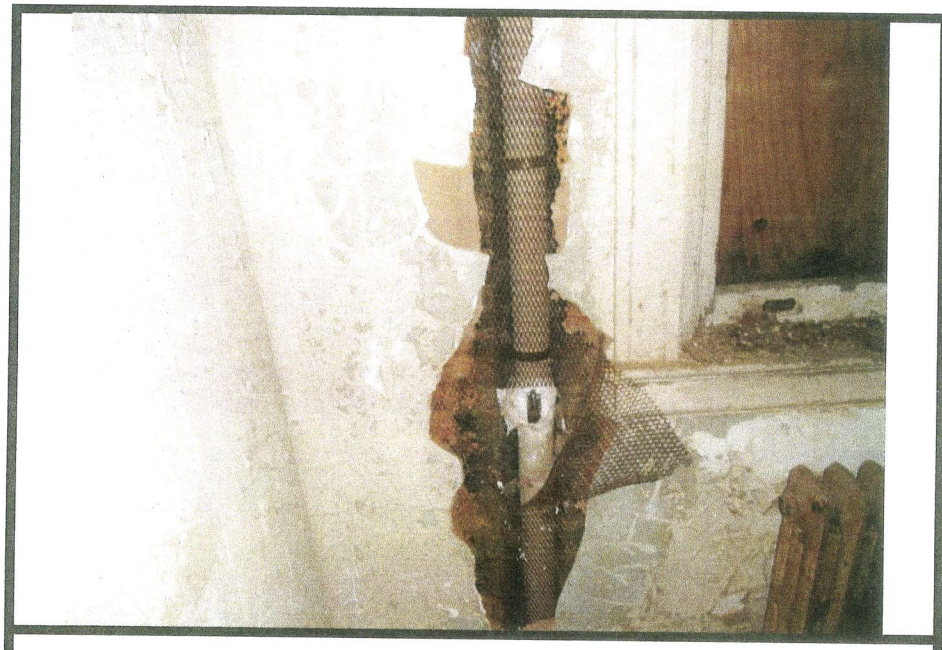


Asbestos-Containing Pipe and Fitting Insulation above Plaster Ceiling (Building 8)

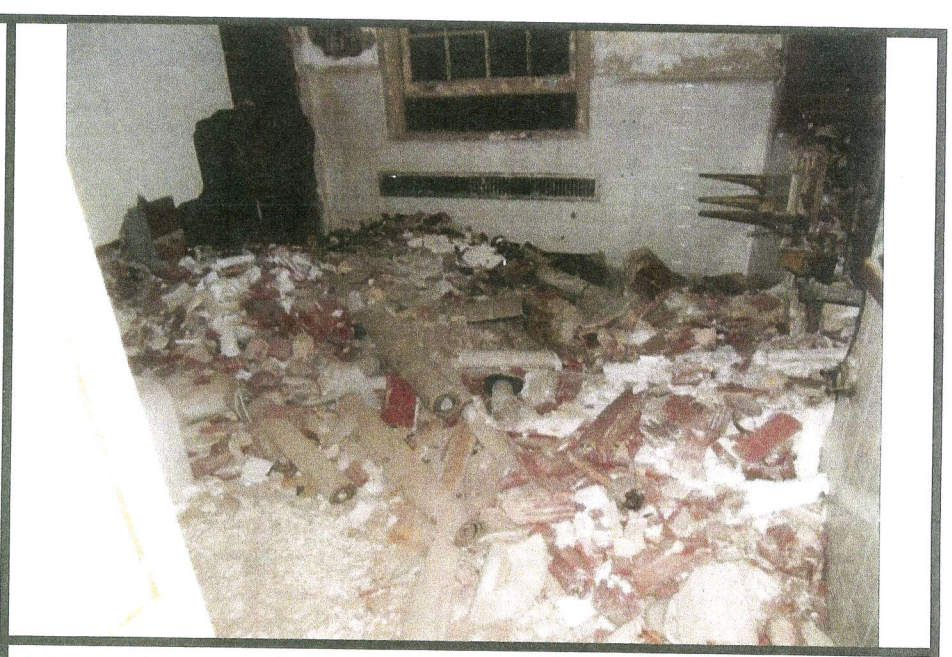
Area where Buildings 6 and 7 Stood

Transite Siding on Dormers (Building 1)

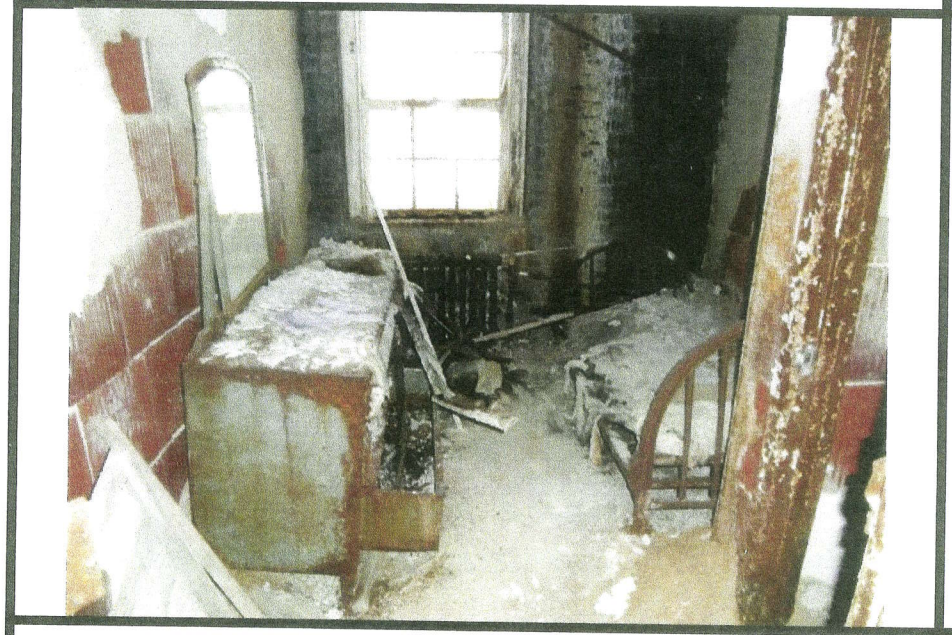
Debris Pile with Asbestos Contamination (Building 20)



Asbestos-Containing Pipe Insulation within Plaster Wall (Building 1)



Asbestos-Containing Pipe Insulation Mixed with Plaster and Terra Cottta Wall Debris (Building 2)



Plaster Debris with some Asbestos-Containing Pipe Insulation Contamination (Building 18)

Asbestos-Containing Duct Insulation in Attic of Building 4