

Laboratory Report

K & L Gates
 17 North Second Street
 18th Floor
 Harrisburg, PA 17101
 United States
 Attention: Mr. David Raphael
 Telephone: 717-231-4504

Report Date 06/26/2019
 Sample Receipt Date 05/30/2019
 RJ Lee Group Job No. LLH901997-8
 Authorization/P.O. No.
 Client Job No./Name

Analysis: Asbestos in Bulk Samples by Point Count
 Method: EPA/600/R-93/116

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
3158814.HPL	#1 - CB-1 #1	Yes	1	0.20 AC	0.10 OF	99.70	Q, AM, OP, M	DF-06/26/2019
Description:		Gray Crushed Rock 1000 Point Count. Detection Limit=0.1% OF=0.1% Actinolite Cleavage						
Weight Loss: 0.0%								
3158815.HPL	#2 - CB-1 #3	Yes	1	ND	0.20 OF	99.80	Q, AM, OP, M	DF-06/26/2019
Description:		Gray Crushed Rock 1000 Point Count. Detection Limit=0.1% OF=0.2% Actinolite Cleavage						
Weight Loss: 0.0%								
3158816.HPL	#3 - CB-2 #4	Yes	1	ND	0.20 OF	99.80	Q, AM, OP, M	DF-06/26/2019
Description:		Gray Crushed Rock 1000 Point Count. Detection Limit=0.1% OF=0.2% Actinolite Cleavage						
Weight Loss: 0.0%								

Client Job No./Name:

RJ Lee Group Job No:

LLH901997-8

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
3158817.HPL	#4 - CB-2 #5	Yes	1	ND	0.10 OF	99.90	Q, AM, OP, M	DF-06/26/2019
Description:		Gray Crushed Rock 1000 Point Count. Detection Limit=0.1% OF=0.1% Actinolite Cleavage						
Weight Loss:		0.0%						
3158818.HPL	#5 - CB-2 #6	Yes	1	0.10 TR	0.30 OF	99.60	Q, AM, OP, M	DF-06/26/2019
Description:		Gray Crushed Rock 1000 Point Count. Detection Limit=0.1% OF=0.3% Actinolite Cleavage						
Weight Loss:		0.0%						
3158819.HPL	#6 - CB-3 #7	Yes	1	ND	0.30 OF	99.70	Q, AM, OP, M	AV-06/26/2019
Description:		Grey Crushed Rock 1000 Point Count. Detection Limit=0.1% OF= Actinolite Cleavage						
Weight Loss:		0.0%						
3158820.HPL	#7 - CB-3 #8	Yes	1	ND	0.20 OF	99.80	Q, AM, OP, MI, M	DF-06/26/2019
Description:		Gray Crushed Rock 1000 Point Count. Detection Limit=0.1% OF=0.2% Actinolite Cleavage						
Weight Loss:		0.0%						
3158821.HPL	#8 - CB-3 #9	Yes	1	ND	<0.1 OF	100.00	CA, OP, M	DF-06/26/2019
Description:		Gray Crushed Rock 1000 Point Count. Detection Limit=0.1% OF=<0.1% Actinolite Cleavage						
Weight Loss:		0.0%						

Client Job No./Name:


RJ Lee Group Job No: LLH901997-8

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
3158822.HPL	#9 - CB-4 #10	Yes	1	ND	<0.1 OF	100.00	CA, AM, OP, M	DF-06/26/2019
Description:		Gray Crushed Rock 1000 Point Count. Detection Limit=0.1% OF=<0.1% Actinolite Cleavage						
Weight Loss: 0.0%								

Client Job No./Name:

RJ Lee Group Job No: LLH901997-8

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
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Authorized Signature: 

Donald Fike

ASBESTOS

- AM = Amosite
- AC = Actinolite
- AN = Anthophyllite
- CH = Chrysotile
- CR = Crocidolite
- TR = Tremolite

NON-ASBESTOS

- CE = Cellulose
- MW = Mineral Wool
- FG = Fibrous Glass
- SF = Synthetic Fibers
- H = Hair
- W = Wollastonite
- OF = Other Fibers

NON-FIBROUS MATERIALS

- AM = Amphibole
- B = Binder
- CA = Carbonates
- CL = Clay
- F = Feldspar
- G = Gypsum
- HY = Hydromagnesite
- M = Miscellaneous
- MI = Mica
- OP = Opaque
- OR = Organic
- P = Perlite
- Q = Quartz
- T = Tar
- V = Vermiculite

DISCLAIMER NOTES

- "ND" indicates no asbestos was detected; the method detection limit is 0.25%.
- "Trace" or "<" indicates asbestos was identified in the sample, but the concentration is less than the method quantitation limit. PLM coefficients of variance range from approximately 1.8 at the quantitation limit of 0.25% to 0.32 at high fiber concentrations.
- Samples are archived for three months following analysis and are then properly discarded.
- These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
- This test report relates to the items tested.
- This report is not valid unless it bears the name of a NVLAP Lab Code 101208-0 approved signatory.
- Any reproduction of this document must be in full in order for the report to be valid.
- This report may not be used to claim product endorsement by NVLAP Lab Code 101208-0, any agency of the U.S. Government or any other laboratory accrediting agency.
- Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar nonfriable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as "non-asbestos-containing."
- Sample(s) for this project were analyzed at our: Monroeville, PA (AIHA #100364, NY ELAP #10884) facility.
- If RJ Lee Group, Inc. did not collect the samples analyzed, the verifiability of the laboratorys results are limited to the reported values.
- $((100-A)/B)*C$ = Asbestos Detected (%), where A=weight loss, B=total # of points counted, and C=total # of asbestos fibers counted.

Request for Environmental and IH Laboratory Analytical Services

COPY

LLH901997-8

ATTENTION TO:					Purchase Order No.:			Client Job No.: Rock Hill Quarry						
Lab Use Only	Project No.:		Client No.:		Date Results Needed	Rush Charges Authorized? (check one)			<input type="checkbox"/> YES <input type="checkbox"/> NO					
Report Results To	Date Logged In:		Logged In By:		Drinking Water Sample Only	Sample Purpose: Information <input type="checkbox"/> Regulatory <input type="checkbox"/> Accreditation (please list below):								
	Name: Andrew Gutshall					System ID #: N/A								
	Company: Hanson Aggregates Pa, LLC					DOH Source #: N/A			N/A					
	Address: 7660 Imperial Way					Multiple Sources #: N/A								
	City, State, Zip: Allentown, PA 18195				Chemistry Analysis Key	Sample Purpose: A <input type="checkbox"/> B <input type="checkbox"/> Other <input type="checkbox"/> N/A								
	Phone: 610-366-4819 Fax:					Preservation: Unpres H ₂ SO ₄ 4°C HCl HNO ₃ NaOH Other Na ₂ SO ₄			Matrix: WW=Wastewater GW=Groundwater S=Soil/Sludge E=Extract			SW=Surface Water DW=Drinking Water O=Oil X=Other		
	Email Results To: Andrew.Gutshall@LehighHanson.com								Container: P=Plastic G=Glass W=Wipe A=Air (filter or tube)					
Invoice To	Name:		If a hard copy of invoice is needed, check here <input type="checkbox"/>											
	Company:		Email:											
	Address:													
	City, State, Zip:													
	Phone:		Fax:											
Special Instructions	Invoice per project setup with Drew Van Orden													

Client Sample ID	Sample Description	Sample Date	Sample Time		Wipe Area / Air Volume	Sample Location (Please specify if NY state)	Analysis Requested				Pres. Upon Receipt (Y/N)	Preservation	Matrix	Container Type	pH	No. Containers
			Start	Stop			PLM/TEM EPA 600/R-93/116 (see Attach. 1)									
1	CB-1 #1	5/23/19	1123	Grab	N/A		X				N/A	N/A	X	P	N/A	1
2	CB-1 #3	5/23/19	1134		N/A		X				N/A	N/A	X	P	N/A	1
3	CB-2 #4	5/23/19	1139		N/A		X				N/A	N/A	X	P	N/A	1
4	CB-2 #5	5/23/19	1147		N/A		X				N/A	N/A	X	P	N/A	1
5	CB-2 #6	5/23/19	1152		N/A		X				N/A	N/A	X	P	N/A	1
6	CB-3 #7	5/23/19	1157		N/A		X				N/A	N/A	X	P	N/A	1
7	CB-3 #8	5/23/19	1203		N/A		X				N/A	N/A	X	P	N/A	1
8	CB-3 #9	5/23/19	1207		N/A		X				N/A	N/A	X	P	N/A	1
9	CB-4 #10	5/23/19	1211	✓	N/A		X				N/A	N/A	X	P	N/A	1

Chain of Custody	Relinquished By (Signature): <i>JAY</i>	Date: 5/23/19	Time: 1530	Chain of Custody	Received By (Signature): <i>Liz VanDer...</i>	Date: 5/24/19	Time:
	Relinquished By (Print Name): <i>John A. Yencel</i>	Relinquished To:			Received By (Print Name): <i>Liz VanDer...</i>	Relinquished To:	
	Company Name: <i>Faithree</i>	Method of Shipment: <i>FEDEX</i>			Company Name: <i>RJLG</i>	Method of Shipment:	
Chain of Custody	Relinquished By (Signature):	Date:	Time:	Chain of Custody	Received By (Signature): <i>Andrea Maugus</i>	Date: 05-30-19	Time: 12:10PM
	Relinquished By (Print Name):	Relinquished To:			Received By (Print Name): <i>Andrea Maugus</i>	Relinquished To:	
	Company Name:	Method of Shipment:			Company Name: <i>RJ Lee Group</i>	Method of Shipment:	

Polarized Light Microscopy Point Count Worksheet for Asbestos Analysis of Bulk Samples

Date: 06/11/19 Analyst: DF Scope: 036-0PT

Sample Description: Gray Crushed Rock

RJ Lee Group
 Sample Number: 315 8814
 RJ Lee Group
 Project Number: LLH 901997-8
 Analysis Method:

Comments / # of Layers: 1000 pt count. Detection Limit = ^{0.1%}~~0.25%~~ 06/11/19 DF

Stereo-scope	%	Asbestos Type	Morphology	Color/Pleochroism		Indices of Refraction		Birefringence	Sign of Elongation	Extinction Angle	NFM%
				Color	Pleochroism		⊥				
	0.2%	Act	WCS	6016R	Col	1.634	1.627	L M	B N	RL	Quartz Tar Perlite Talc Clay Misc Particles
			WCS								Carbonates Binder Amphibole Feldspar Organic Part. Foam
			WCS								Vermiculite Opakes Gypsum Mica Diatoms Foil
		% Non-Asbestos Fibers		Optical Properties		Layered Results		Asbestos	Non-Asb.	Matrix	
	0.1%	Act. cleavage		R.I.							

Type	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
NAS	150	99	100	100	100	100	100	99	797
Clev	1	0	0	0	0	0	0	0	1
Asb	0	1	0	0	0	0	0	1	2
Total	100	100	100	100	100	100	100	100	800

$$\text{Detection Limit} = \frac{1}{1000} \times 100\% = 0.1\%$$

Effective Date: March 2019
Form F OPT.001

PLM Point Count Additional Slides Worksheet

Date: 06/11/19 Analyst: DF Microscope: 036-0PT

RJ Lee Group Sample Number: 3158814 RJ Lee Group Project Number: LLH901997-8

Type	Slide <u>9</u>	Slide <u>10</u>	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
NAs	100	100							997
Asb	0	0							2
Clev	0	0							0
Total									1000

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Polarized Light Microscopy Point Count Worksheet for Asbestos Analysis of Bulk Samples

Date: 06/13/19 Analyst: DF Scope: 036-0PT

Sample Description: Gray Crushed Rock

RJ Lee Group
 Sample Number: 3158815
 RJ Lee Group
 Project Number:
 Analysis Method: LH901997-8

Comments / # of Layers: 1000 pt count, Detection Limit = 0.1%

Stereo-scope	%	Asbestos Type	Morphology	Color/Pleochroism		Indices of Refraction		Birefringence	Sign of Elongation	Extinction Angle	NFM%
					⊥		⊥	L M	P N	Y N	
		<u>ND</u>	<u>W C S</u>					<u>L M</u>	<u>P N</u>		<u>Quartz</u> Carbonates Vermiculite
			<u>W C S</u>					<u>L M</u>	<u>P N</u>		Tar Binder <u>Opauques</u>
			<u>W C S</u>					<u>L M</u>	<u>P N</u>		Perlite <u>Amphibole</u> Gypsum
		% Non-Asbestos Fibers		Optical Properties		Layered Results		Asbestos	Non-Asb.	Matrix	Talc Feldspar Mica
	<u>0.2%</u>	<u>Actin. cleav.</u>		<u>R. I.</u>							Clay Organic Part. Diatoms
											<u>Misc. Particles</u> Foam Foil

Type	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
<u>NAS</u>	<u>100</u>	<u>100</u>	<u>99</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>799</u>
<u>cle</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
<u>Asb</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>+3100</u>	<u>800</u>

06/13/19 DF

Effective Date: March 2019
Form F OPT.001

PLM Point Count Additional Slides Worksheet

Date: 06/13/19 Analyst: DF Microscope: 036-OPT

RJ Lee Group Sample Number: 3158815 RJ Lee Group Project Number: LLH90997-8

Type	Slide <u>9</u>	Slide <u>10</u>	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
NAS	⁹⁹ 100 _{06/13/19 DF}	100							199
cle	^{06/13/19 DF} 1	0							1
Asb	0	0							0
Total	100	100							1000

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Polarized Light Microscopy Point Count Worksheet for Asbestos Analysis of Bulk Samples

Date: 06/20/19 Analyst: DF Scope: 036-0P1

Sample Description: Gray crushed Rock

RJ Lee Group
 Sample Number: 3158816
 RJ Lee Group
 Project Number: LLH901997-8
 Analysis Method:

Comments /
 # of Layers: 1000 point count. Detection Limit = 0.1%

Stereo-scope	%	%	Asbestos Type	Morphology	Color/Pleochroism		Indices of Refraction		Birefringence	Sign of Elongation	Extinction Angle	NFM%
						⊥		⊥				
			<u>ND</u>	<u>W C S</u>					<u>L M</u>	<u>P N</u>		<u>Quartz</u> Carbonates Vermiculite
				<u>W C S</u>					<u>L M</u>	<u>P N</u>		Tar Binder <u>Opakes</u>
				<u>W C S</u>					<u>L M</u>	<u>P N</u>		Perlite <u>Amphibole</u> Gypsum
			% Non-Asbestos Fibers		Optical Properties		Layered Results		Asbestos	Non-Asb.	Matrix	Talc Feldspar Mica
		<u>0.2%</u>	<u>Actin. cleavage</u>		<u>R.I.</u>							Clay Organic Part. Diatoms
												<u>Misc Particles</u> Foam Foil

Type	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
<u>NAs</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>98</u>	<u>100</u>	<u>100</u>	<u>798</u>
<u>clev.</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
<u>Asb</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>800</u>

Effective Date: March 2019
Form F OPT.001

PLM Point Count Additional Slides Worksheet

Date: 06/20/19 Analyst: DF Microscope: 036 OPT

RJ Lee Group Sample Number: 3158816 RJ Lee Group Project Number: LLH401997-8

Type	Slide <u>9</u>	Slide <u>10</u>	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
NAS	100	100							200
clw	0	0							0
Asb	0	0							0
Total	100	100							1000

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Polarized Light Microscopy Point Count Worksheet for Asbestos Analysis of Bulk Samples

Date: 06/20/19 Analyst: DF Scope: 036-0PT

Sample Description: Gray Crushed Rock

RJ Lee Group
 Sample Number: 3158817
 RJ Lee Group
 Project Number: LLH901997-8
 Analysis Method:

Comments / # of Layers: 1000 pt count. Detection Limit = 0.1%

Stereo-scope	%	Asbestos Type	Morphology	Color/Pleochroism		Indices of Refraction		Birefringence	Sign of Elongation	Extinction Angle	NFM%
					⊥		⊥	L M	P N	Y N	
		<u>ND</u>	W C S					L M	P N		Quartz
			W C S					L M	P N		Carbonates
			W C S					L M	P N		Vermiculite
		% Non-Asbestos Fibers		Optical Properties		Layered Results		Asbestos	Non-Asb.	Matrix	Tar
	<u>0.1%</u>	<u>Actin. cleavage</u>		<u>R.I.B</u>							Blender
											<u>Opaques</u>
											Perlite
											<u>Amphibole</u>
											Gypsum
											Talc
											Feldspar
											Mica
											Clay
											Organic Part.
											Diatoms
											<u>Misc Particles</u>
											Foam
											Foil

Type	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
<u>NAS</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>99</u>	<u>100</u>	<u>799</u>
<u>cle</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>
<u>Ash</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	100	100	100	100	100	100	100	100	800

Effective Date: March 2019
Form F OPT.001

PLM Point Count Additional Slides Worksheet

Date: 06/20/19 Analyst: DF Microscope: 036-0PT

RJ Lee Group Sample Number: 3158817 RJ Lee Group Project Number: LLH901997-8

Type	Slide <u>9</u>	Slide <u>10</u>	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
NAS	100	100							200
cle.	0	0							0
Ash	0	0							0
Total	100	100							100

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Polarized Light Microscopy Point Count Worksheet for Asbestos Analysis of Bulk Samples

Date: 06/20/19 Analyst: DF Scope: 036-0PT

Sample Description: Gray Crushed Rock

RJ Lee Group
 Sample Number: 315 8818
 RJ Lee Group
 Project Number: LLH90797-8
 Analysis Method:

Comments /
 # of Layers: 1000 pt count. Detection Limit = 0.1%

Stereo-scope	%	Asbestos Type	Morphology	Color/Pleochroism		Indices of Refraction		Birefringence	Sign of Elongation	Extinction Angle	NFM%
					⊥		⊥				
	0.1%	Trem	WCS	Col	col	1.635	1.625	L M	⊕ N	0°	Quartz Tar Perlite Talc Clay Misc Particles
			WCS					L M	P N		Carbonates Blinder Amphibole Feldspar Organic Part.
			WCS					L M	P N		Vermiculite Opacues Gypsum Mica Diatoms Foil
		% Non-Asbestos Fibers		Optical Properties		Layered Results		Asbestos	Non-Asb.	Matrix	
	0.3%	Actin. cleavage		R.I.							

Type	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
NAS	100	100	99	99	98	100	100	100	796
cle	0	0	1	0	2	0	0	0	3
Asb	0	0	0	1	0	0	0	0	1
Total	100	100	100	100	100	100	100	100	800

Effective Date: March 2019
Form F OPT.001

PLM Point Count Additional Slides Worksheet

Date: 06/20/19 Analyst: DF Microscope: 036-0PT

RJ Lee Group Sample Number: 3158818 RJ Lee Group Project Number: LLH901997-8

Type	Slide 9	Slide 10	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Total
NAS	100	100	1						200
cle	0	0							0
Asb	0	0							0
Total	100	100							1000

Type	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Total
Total									

Type	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Total
Total									

Polarized Light Microscopy Point Count Worksheet for Asbestos Analysis of Bulk Samples

Date: 06/20/19 Analyst: AVD Scope: 025-0PT

Sample Description: Grey Crushed Rock

Comments / # of Layers: 1000 Pnt Count. Detection Limit = 0.1%

RJ Lee Group
 Sample Number: 3158819
 RJ Lee Group
 Project Number: LL1901997-8
 Analysis Method:

Stereo-scope	%	Asbestos Type	Morphology	Color/Pleochroism		Indices of Refraction		Birefringence	Sign of Elongation	Extinction Angle	QC Analyst:
					⊥		⊥				
	<u>ND</u>		WCS					L M	P N		NFM% <u>99.71</u>
			WCS					L M	P N		
			WCS					L M	P N		
	<u>0.3%</u>	Non-Asbestos Fibers		Optical Properties		Layered Results		Asbestos	Non-Asb.	Matrix	
		<u>Actinolite cleavage</u>									

- Quartz
- Carbonates
- Vermiculite
- Tar
- Blinder
- Opaques
- Perlite
- Amphibole
- Gypsum
- Talc
- Feldspar
- Mica
- Clay
- Organic Part.
- Diatoms
- Misc Particles
- Foam
- Foil

Type	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
NAS	<u>98</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>99</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>797</u>
clew	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>3</u>
ASB	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total									

Effective Date: March 2019
Form F OPT.001

PLM Point Count Additional Slides Worksheet

Date: 06/20/19 Analyst: AVP Microscope: 025-OPT

RJ Lee Group Sample Number: 3158819 RJ Lee Group Project Number: LLH901997-8

Type	Slide <u>9</u>	Slide <u>10</u>	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
<u>NAB</u>	<u>100</u>	<u>100</u>							<u>997</u>
<u>clew</u>	<u>0</u>	<u>9</u>							<u>3</u>
<u>ASB</u>	<u>0</u>	<u>0</u>							<u>0</u>
Total									<u>1000</u>

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Polarized Light Microscopy Point Count Worksheet for Asbestos Analysis of Bulk Samples

Date: 06/20/19 Analyst: DF Scope: 036-0PT

Sample Description: Gray Crushed Rock

RJ Lee Group
 Sample Number: 3158820
 RJ Lee Group
 Project Number: LLA901997-8
 Analysis Method:

Comments /
 # of Layers: 1000 pt count. Detection Limit = 0.1%

Stereo-scope	%	Asbestos Type	Morphology	Color/Pleochroism		Indices of Refraction		Birefringence	Sign of Elongation	Extinction Angle	NFM%
					⊥		⊥				
		<u>ND</u>	<u>WCS</u>					<u>L M</u>	<u>P N</u>		<u>Quartz</u> Carbonates Vermiculite
			<u>WCS</u>					<u>L M</u>	<u>P N</u>		Tar Binder <u>Opacities</u>
			<u>WCS</u>					<u>L M</u>	<u>P N</u>		Perlite <u>Amphibole</u> Gypsum
		% Non-Asbestos Fibers		Optical Properties		Layered Results		Asbestos	Non-Asb.	Matrix	Talc Feldspar <u>Mica</u>
	<u>0.2%</u>	<u>Actin clev.</u>		<u>R.I.</u>							Clay Organic Part. Diatoms
											<u>Misc Particles</u> Foam Foil

Type	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
<u>NAs</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>99</u>	<u>99</u>	<u>100</u>	<u>100</u>	<u>798</u>
<u>cle</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>2</u>
<u>Ash</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>800</u>

Effective Date: March 2019
Form F OPT.001

PLM Point Count Additional Slides Worksheet

Date: 06/20/19 Analyst: DF Microscope: 036-OPT

RJ Lee Group Sample Number: 3158820 RJ Lee Group Project Number: LLH901997-8

Type	Slide <u>9</u>	Slide <u>10</u>	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
<u>NAs</u>	<u>100</u>	<u>100</u>							<u>200</u>
<u>cle</u>	<u>0</u>	<u>0</u>							<u>0</u>
<u>Asb</u>	<u>0</u>	<u>0</u>							<u>0</u>
Total	<u>100</u>	<u>100</u>							<u>1000</u>

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Polarized Light Microscopy Point Count Worksheet for Asbestos Analysis of Bulk Samples

Date: 06/20/19 Analyst: DF Scope: 036 OPT

Sample Description: Gray Crushed Rock

RJ Lee Group
 Sample Number: 3158821
 RJ Lee Group
 Project Number: LH 901997-8
 Analysis Method:

Comments /
 # of Layers: 1000 point count. Detection Limit = 0.1%

Stereo-scope		Asbestos Type		Morphology		Color/Pleochroism		Indices of Refraction		Birefringence	Sign of Elongation	Extinction Angle	NFM%		
%	%				⊥		⊥	L M	P N				Quartz	Carbonates	Vermiculite
		ND	W C S					L M	P N						
			W C S					L M	P N						
			W C S					L M	P N						
		% Non-Asbestos Fibers		Optical Properties		Layered Results		Asbestos	Non-Asb.	Matrix					

Type	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
NAS	100	100	100	100	100	100	100	100	800
cle	0	0	0	0	0	0	0	0	0
Asb	0	0	0	0	0	0	0	0	0
Total	100	100	100	100	100	100	100	100	800

Effective Date: March 2019
Form F OPT.001

PLM Point Count Additional Slides Worksheet

Date: 06/20/19 Analyst: DF Microscope: 036-0PT

RJ Lee Group Sample Number: 3158821 RJ Lee Group Project Number: LLH 901997-8

Type	Slide <u>9</u>	Slide <u>10</u>	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
NAS	100	100							200
cle	0	0							0
Ash	0	0							0
Total	100	100							1000

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Type	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Slide ____	Total
Total									

Polarized Light Microscopy Point Count Worksheet for Asbestos Analysis of Bulk Samples

Date: 06/24/17 Analyst: DF Scope: 036-0PT

Sample Description: Gray Crushed Rock

RJ Lee Group
 Sample Number: 3158822
 RJ Lee Group
 Project Number: LLH901997-8
 Analysis Method:

Comments / # of Layers: 1000 point count. Detection Limit = 0.1%

Stereo-scope	%	Asbestos Type	Morphology	Color/Pleochroism		Indices of Refraction		Birefringence	Sign of Elongation	Extinction Angle	NFM%
					⊥		⊥				
		<u>ND</u>	<u>WCS</u>					<u>L M</u>	<u>P N</u>		Quartz <u>Carbonates</u> Vermiculite
			<u>WCS</u>					<u>L M</u>	<u>P N</u>		Tar Binder <u>Opacities</u>
			<u>WCS</u>					<u>L M</u>	<u>P N</u>		Perlite <u>Amphibole</u> Gypsum
		% Non-Asbestos Fibers		Optical Properties		Layered Results		Asbestos	Non-Asb.	Matrix	Talc Feldspar Mica
											Clay Organic Part. Diatoms
											<u>Misc Particles</u> Foam Foil

Type	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
<u>NAS</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>799</u>
<u>Clv</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
<u>Asb</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>800</u>

Effective Date: March 2019
Form F OPT.001

PLM Point Count Additional Slides Worksheet

Date: 06/24/19 Analyst: DF Microscope: 036-OPT

RJ Lee Group Sample Number: 3158822 RJ Lee Group Project Number: LLH901997-8

Type	Slide 1	Slide 10	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Total
NAS	100	100							200
ele	0	0							
Asb	0	0							
Total	100	100							1000

Type	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Total
Total									

Type	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Slide ___	Total
Total									