

350 Hochberg Road, Monroeville, PA 15146

Tel: 724-325-1776 | Fax: 724-733-1799

# 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 05/29/2019
Sample Receipt Date 04/24/2019
RJ Lee Group Job No. LLH901997-5

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
3158163.HPL	1	Yes	1	ND	<0.1 OF	100.00	Q, CA, AM, OP, M	WT-05/29/2019
Description:	Gray Crushed Rock. 1000 Point Count. Detection Limit=0.1%.							
Weight Loss: 0.0%								
3158164.HPL	2	Yes	1	ND	<0.1 OF	100.00	Q, CA, AM, OP, M	WT-05/29/2019
Description:	Gray Crushed Rock. 1000 Point Count. Detection Limit=0.1%.							
Weight Loss: 0.0%								
3158165.HPL	3	Yes	1	<0.1 TR		100.00	Q, CA, AM, OP, M	WT-05/29/2019
Description:	Gray Crushed Rock. 1000 Point Count. Detection Limit=0.1%.							
Weight Loss: 0.0%								





Client Job No./Na	ame:					RJ Lee (	Group Job No:	LLH901997-5	
RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date	
3158166.HPL	4	Yes	1	ND	0.70 OF	99.30	CA, AM, OP, M	JM-05/29/2019	
Description:	Gray Crushed Rock 1000 points counted. Detection limit of 0.1%	·.							
Weight Loss: 0.0%									
3158167.HPL	5	Yes	1	<0.1 AC	<0.1 OF	100.00	CA, AM, OP, M	JM-05/29/2019	
Description:	Gray Crushed Rock 1000 points counted. Detection limit of 0.1%	·.							
Weight Loss: 0.0%									
3158168.HPL	6	Yes	1	ND	0.10 OF	99.90	CA, AM, OP, M	JM-05/29/2019	
Description:	Gray Crushed Rock 1000 points counted. Detection limit of 0.1%	o.							
Weight Loss: 0.0%									
3158169.HPL	7	Yes	1	ND	<0.1 OF	100.00	AM, OP, M	WT-05/29/2019	
Description:	Gray Crushed Rock. 1000 Point Count. Detection Limit=0.1%.								
Weight Loss: 0.0%									
3158170.HPL	8	Yes	1	<0.1 AC <0.1 TR	<0.1 OF	100.00	Q, AM, OP, M	WT-05/29/2019	
Description:	Gray Crushed Rock. 1000 Point Count. Detection Limit=0.1%.								
Weight Loss: 0.0%									



Client Job No./Na	ame:	RJ Lee G	LLH901997-5					
RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date

Authorized Signature:

Wei Tseng, Microscopist

= Quartz

= Vermiculite

= Tar

NON-FIBROUS MATERIALS

ASBESTOS NON-ASBESTOS

CE = Cellulose

MW = Mineral Wool

FG = Fibrous Glass

SF = Synthetic Fibers

H = Hair

W = Wollastonite

= Other Fibers

AM = Amphibole
B = Binder
CA = Carbonates
CL = Clay
F = Feldspar
G = Gypsum

HY = Hydromagnesite
M = Miscellaneous
OP = Opaque
OR = Organic
P = Perlite

#### **DISCLAIMER NOTES**

AM = Amosite

AC = Actinolite

AN = Anthophyllite

CH = Chrysotile

CR = Crocidolite

TR = Tremolite

- · "ND" indicates no asbestos was detected; the method detection limit is 0.1%.
- "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 0.1% 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.



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Attention: Mr. David Raphael Telephone: 717-231-4504

Report Date 05/29/2019
Sample Receipt Date 04/24/2019
RJ Lee Group Job No. LLH901997-6

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
3158157.HPL	11	Yes	1	ND		100.00	Q, CA, AM, OP, M	DF-05/29/2019
Description:	Gray Crushed Rock 1000 Point Count. Detection Limit=0.1%							
Weight Loss: 0.0%								
3158158.HPL	12	Yes	1	ND	1.00 OF	99.00	Q, CA, AM, OP	DF-05/29/2019
Description:	Gray Crushed Rock 1000 Point Count. Detection Limit= 0.1%							
Weight Loss: 0.0%								
3158159.HPL	13	Yes	1	ND		100.00	Q, CA, M	DF-05/29/2019
Description:	Gray Crushed Rock 1000 Point Count. Detection Limit - 0.1%							
Weight Loss: 0.0%								





Client Job No./Na	ame:					RJ Lee C	Group Job No:	LLH901997-6	
RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date	
3158160.HPL	14	Yes	1	ND		100.00	Q, CA, AM, OP, M	DF-05/29/2019	
Description:	Gray Crushed Rock 1000 Point Count. Detection Limit =0.1%								
Weight Loss: 0.0%									
3158161.HPL	15	Yes	1	ND	0.40 OF	99.60	Q, CA, OP, M	DF-05/29/2019	
Description:	Gray Crushed Rock 1000 Point Count. Detection Limit=0.1%								
Weight Loss: 0.0%									
3158162.HPL	16	Yes	1	ND		100.00	Q, CA, AM, OP, M	DF-05/29/2019	
Description:	Gray Crushed Rock 1000 Point Count. Detection Limit=0.1%								
Weight Loss: 0.0%									
3158171.HPL	9	Yes	1	ND		100.00	Q, CA, AM, OP, M	DF-05/29/2019	
Description:	Gray Crushed Rock 1000 Point Count. Detection Limit=0.1%								
Weight Loss: 0.0%									
3158172.HPL	10	Yes	1	ND		100.00	Q, CA, OP, M	DF-05/29/2019	
Description:	Gray Crushed Rock 1000 Point Count. Detection Limit=0.1%								
Weight Loss: 0.0%									



Client Job No./Na	ame:	RJ Lee C	LLH901997-6					
RJLG Sample	Client Sample	;	# of Layers	Asbestos	Non-Asbestos	Non-Fibrous	Matrix	Analyst - Analysis
Number	Number	Homogeneous		Detected(%)	Fibers(%)	Materials(%)	Material	Date

Authorized Signature:

Donald Fike

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NON-ASBESTOS **ASBESTOS** AM = Amosite

CE = Cellulose MW = Mineral Wool FG = Fibrous Glass = Synthetic Fibers = Hair

= Wollastonite OF = Other Fibers NON-FIBROUS MATERIALS

AM = Amphibole HY = Hydromagnesite = Quartz = Binder = Miscellaneous = Tar

= Carbonates MI = Mica = Vermiculite = Opaque = Clay

= Organic = Feldspar = Perlite = Gypsum

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- · ((100-A)/B)\*C = Asbestos Detected (%), where A=weight loss, B=total # of points counted, and C=total # of asbestos fibers counted.



Date: δ	05/15/19	Analyst:	W	Scope:	023-0P	r	Sample Description:	Gran	Crushe	A Nock	~	<u> </u>	
RJ Lee Groo Sample Nu RJ Lee Groo	mber: 31	58163 H9019					Comments /	1000	Point (	ount.	<u>Detecti</u>	on Limi	t = 0.1%
Project Nu Analysis M	mber.	.179019	( 1				# of Layers:			T	Too		
Stereo- scope							# of Preps: [ O	Homo	ogenous N	QC Y N	QC Analyst:		
%	%	Asbestos Type	Morphology	Color/Ple	ochroism 上		f Refraction	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM% (	0/0	
			wcs					L M	P N		Quartz	Carbonates	Vermiculite
			wcs					LM	P N		Tar	Binder	Opaques
			wcs					LM	PN		Perlite	Amphibole	Gypsum
	% I	Non-Asbestos	Fibers	Optical Pro	operties	Layered Res	ults	Asbestos	Non-Asb.	Matrix	Talc	Feldspar	Mica
	LO.1%.	Tremolite	Cleavage	R.I							Clay	Organic Part.	Diatoms
			Ü								Mis@Particles	Foam	Foil

Туре	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
ASIS	Ô	0	0	0	0	٥	ο	0	0
CLE	0	0	0	0	0	0	0	0	0
NAS	100	100	100	100	(00	(00	(00	[00]	Los
Total	100	100	100	100	(00	-100	100	(00	foo

Detection Limit = 1000 ×100% = 0.1%



Form F OPT.001

# **PLM Point Count Additional Slides Worksheet**

Date: <u>05/15/19</u>	Analyst: WT	Microscope: <u>023-0P</u> T
RJ Lee Group Sample Number	r: 3158163	RJ Lee Group Project Number: 41-1901997

Туре	Slide 9	Slide 10	Slide	Slide	Slide	Slide	Slide	Slide	Total	
ASB	0	0							0	0
CLE	0	0							0	0
NAS	(00)	100							200	1000
Total	(00	(00)							200	1000

Туре	Slide	Total							
<u></u>									· · · · · · · · · · · · · · · · · · ·
Total						1			
lOtal								- Annual Control of the Control of t	

Туре	Slide	Total							
									To the State of th
Total									



Date:	05/16/19	Analyst:	_WT	Scope:	82370P	`r	Sample Description:	Giray	Crushed	Rock	•		
RJ Lee Gro Sample Nu	up ımber: 3	158164										Limit=0.1	%
IR .		1190199					Comments / # of Layers:		•		•		
Analysis M													
Stereo- scope							# of Preps: ( 🗘	Home Y	egenous N	QC Y N	QC Analyst:		
%	%	Asbestos Type	Morphology	Color/Ple	ochroism 上	Indices o	f Refraction	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM%	(60%	
			wcs					L M	PN		Quartz	Carbonates	Vermiculite
			wcs					L M	P N		Quartz	Binder	Opaques
			w c s					L M	PN		Perlite	Amphibele	Gypsum
	%	Non-Asbestos	Fibers	Optical Pro	operties	Layered Res	sults	Asbestos	Non-Asb.	Matrix	Talc	Feldspar	Mica
	CO 11/2	Tremolite	Cleavage	(2.I							Clay	Organic Part.	Diatoms
			, 0								Misc Rarticle	es Foam	Foil

Туре	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
A513	0	0	0	0	O	0	0	0	Ð
CLE	O O	0	D	D	J	0	0	ರಿ	O
NAS	(00	(00)	(૭૦	(00	(00	(৩০	(00	100	Poo
Total	/00	<i>[</i> 00	/১১	(00	100	(১১	100	100	fvo

Detection Limit = 1000 ×100% = 0.1%



Form F OPT.001

PLM Point Count Additional Slides Worksho	PLM	l Point	Count	Additional	Slides	Workshe	et
---	-----	---------	-------	------------	--------	---------	----

Date:05-/(6/(9	Analyst: $W_l$	Microscope: <u>0と3-0</u> P「	
RJ Lee Group Sample Numbe	r: 3158164	RJ Lee Group Project Number: 12H93/997	

Туре	Slide 9	Slide (o	Slide	Slide	Slide	Slide	Slide	Slide	Total	
ASB	0	0							O	0
CLG	0	ð							0	0
NAS	100	(0)							200	(40
***************************************										
Total	100	601							200	100

Туре	Slide	Total							
Total									

Total	Slide	_   Slide	Type						
				1					
									Total
				,					Total



Date:	05/16/19	Analyst:	WT	Scope:	0237	286	Sample Description:	Gray	Crushee	1 Rock	,		
RJ Lee Gro Sample Nu	imber: う	158165					Comments /	1000	Point (	DOVAT.	)-tec	Hon Limi	t=0.1%
		1190199	17				# of Layers:						
Analysis M Stereo- scope	ethod:						# of Preps: (ク	Hopas (Y)	genous N	QC Y N	QC Analyst:	·	
%	%	Asbestos Type	Morphology	Color/Ple	ochroism 上	Indices o	f Refraction	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM%	100%	
	<0.1%	Tremolite	w c(s)	CDL	2	(.608	1.601	L (M)	P) N	PL	Quart	z Carbonates	Vermiculite
			wcs					L M	PN		Tar	Binder	Opaques
			wcs					L M	PN		Perlit	e Amphibole	Gypsum
	%	Non-Asbestos	Fibers	Optical Pr	operties	Layered Res	<u>sults</u>	Asbestos	Non-Asb.	Matrix	Talc	Feldspar	Mica
											Clay	Organic Part.	Diatoms
											Misq Part	) iicles Foam	Foil
					40.00				<u> </u>				

Type	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
ASB	0	0	0	O	O	0	อ	o	0
CLG	0	0	0	0	0	0	0	0	0
NAS	100	100	(00)	(0)	(00	(0)	(00	(00	Joo
Total	100	100	100	(00	100	100	100	100	foc

Detection Limit = (000 ×100% = 0.1%

17	RJ	LEE	GROUP
The second of th	DELIVE	RING SCIEN	TIFIC RESOLUTION

Form F OPT.001

# **PLM Point Count Additional Slides Worksheet**

Date: <u>05/16/19</u>	Analyst:	W	Microscope: 023-0PT	
RJ Lee Group Sample Number	r: 3156	165	RJ Lee Group Project Number: しょ	H901997

Туре	Slide 9	Slide <u>10</u>	Slide	Slide	Slide	Slide	Slide	Slide	Total	
ASB	0	٥							D D	]0
CLE	0	0							Û	0
NA5	[00]	(00)							200	100
									State Medition to All control to Assessment	
Total	100	100							200	100

Туре	Slide	Total							
Total									

Туре	Slide	Total							
Total									



Date: O	5/21/19	Analyst:	JM	Scope:	055-	OPT	Sample Description:	Gran	cru	Shed	d roc	K	
RJ Lee Gro Sample Nu RJ Lee Gro Project Nu Analysis M	umber: 31 oup umber: [	5816 H901	6997				Comments /					ection	limit of
Stereo- scope							# of Preps: 1 0	Homo Y	ogenous N	QC Y N	QC Analyst:		
%	%	Asbestos Type	Morphology		eochroism 		of Refraction 	Birefrin-	Sign of Elongation	Extinction Angle	NFM%	9.3	
			wcs					LM	PN		Quartz	Carbonates	Vermiculite
			w c s					LM	PN		Tar	Binder	Opaques
			WCS					LM	PN		Perlite	Amphibole	Gypsum
	%	Non-Asbestos	Fibers	Optical Pr	operties	Layered Re	sults	Asbestos	Non-Asb.	Matrix	Talc	Feldspar	Mica
	0.7	Hornk	dende		465					:	Clay	Organic Part.	Diatoms
				<b>1</b> 1.	45S						Misc Particles	Foam	Foil
								i		ļ		/	
					. , , , , , , , , , , , , , , , , , , ,								
												•	

Туре	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
NAC	100	100	99	99	99	100	99	99	795
Hornblende	C	0		1	1	Ò	1		5
Total	100	100	100	100	100	100	(00)	100	800

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



Effective Date: October 2016 OPT.027 revision 0

Date: 05/21/19

Page 1 of 1

PLM Poin	t Count Additio	onal Slides Workshe	et
Analyst:	JM	Microscope:	055-0PT

RJ Lee Group Sample Number: 3158166 RJ Lee Group Project Number: LLH901997

Туре	Slide 9	Slide 10	Slide	_ Slide	Slide	Slide	Slide	_ Slide	Total
NAS	99	99							198
tomblende		1							2
Total	100	100							200

Type	Slide	_ Slide	_ Slide	_ Slide	_ Slide	Slide	_ Slide	Slide	Total
Total									

Type	Slide	Slide	_ Slide	_ Slide	Total				
							111111111		
_			+	1	_		-		
		-	-				11111		
			- 1						
Total			-						



Date: 0	5/21/10	Analyst:	JM	Scope:	055-0	PT	Sample Description:	Gran	y crus	shed	roc	K	
RJ Lee Grou Sample Nu RJ Lee Grou Project Nu Analysis M	mber: 319 up mber: LL	58167 H901	997				Comments / # of Layers:	000 poi	nts coun	nted. C	Detectic	n limit	of 0.1%
Stereo- scope							# of Preps:	Homo Y	ogenous N	QC Y N	QC Analyst:		
%	%	Asbestos Type	Morphology	Color/Pla	eochroism 	Indices of	Refraction	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM%	100	
	(0.1	Actinolite		COL	COL	1.640	1.630	L (M)	(P)N	0°	Quartz	Carbonates	Vermieulite
			w c s					L M	PN		Tar	Binder	Opaques
			wcs					L M	PN		Perlite	Amphibole	Gypsum
	%	Non-Asbestos	Fibers	Optical Pr	operties	Layered Res		Asbestos	Non-Asb.	Matrix	Talc	Feldspar	Mica
	(0.1	Acthodite	cleavage	71-	1. G3	05/22/10	1 JM				Clay	Organic Part.	Diatoms
			•		440						Misc Particle	es Foam	Foil
				上 1.	630								
													Ì
											<u> </u>		

Туре	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
NAS	100	100	(00)	100	100	100	100	100	800
	<del></del>								
	~								- ( )
Total	100	100	100	100	<u> 100</u>	100	100	100	<u> 800</u>

Detection limit =  $\frac{1}{1000} \times 1007_0 = 0.17_0$ 



Form F OPT.001

# **PLM Point Count Additional Slides Worksheet**

Date: 0	5/22/1	9 AI	nalyst:	JM	Mic	roscope: _	055 -	OPT	
RJ Lee Gr	oup Sample	e Number: ַ	315811	07	RJ Lee Gro	oup Project	Number:	LLH901	997
Туре	Slide 9	Slide 10	Slide	Slide	Slide	Slide	Slide	Slide	Total
NAS	100	100							200
Total	100	100							200

Туре	Slide	Slide	Total						
							No. 20 To 10 To		
Total								,	

Туре	Slide	Total							
Total									



Date: (	5/22/19	Analyst:	JM	Scope:	055-	OPT	Sample Description:	Gran	ı Cru	Shec	d roc	ck	
RJ Lee Gro Project Nu	umber: 31 up mber: LL	58169 H901					Comments /				······································	limit of	0.1%
Analysis M Stereo- scope	etnod:						# of 10 Preps:	Homo	ogenous N	QC Y N	QC Analyst:		
%	%	Asbestos Type	Morphology	Color/Ple	ochroism L	Indices o	f Refraction 上	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM% 9	9.9	
			wcs					L M	P N		Quartz	Carbonates	Vermiculite
			wcs					L M	PN		Таг	Binder	Opaques
			wcs					L M	PN		Perlite	Amphibole	Gypstim
	%	Non-Asbestos	Fibers	Optical Pro	operties	Layered Res	sults	Asbestos	Non-Asb.	Matrix	Talc	Feldspar	Mica
	0.1	Actinolite	cleavage	11 +	<del>. 630</del>	1.640					Clay	Organic Part.	Diatoms
					<i>₩</i> -	1.630					Misc Particles	Foam	Foil
	e garante e e e e			05/22	19 22	}						'	
	Tage 181												

Туре	Slic	le 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
NAS	100	C	100	99	100	100	100	100	100	799
actinolite Cleavance	0		0	l	0	0	1000	0	0	١
J							95/23/19			
Total	2	100	100	100	100	100	106	100	100	800

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



Effective Date: October 2016 OPT.027 revision 0

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			PLM Point (	Count Addit	tional Slide	s Warksha	<b>2</b> †		
	- / :								
Date: _	05/23/	19 A	nalyst:	JM	Mid	croscope: _	055 -	OPT	
RJ Lee G	roup Sample	e Number:	31581	68	RJ Lee Gro	oup Project	Number:	LLH90	1997
T	Clide O	Clida ( D	CI:-1-	Telia	CIT	CI: I			
Type	Slide A	Slide <u>10</u>	Slide	Slide	Slide	Slide	Slide	Slide	Total
Actinolite cleavage	100	0							200
cleavage									0
Total	100	601							200
									700
Type	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Total
	<u> </u>	·~							
Total									
Total									
Type	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Total
Total									



U Lee Groo ample Nu U Lee Groo Project Nu analysis M	mber: 5/ up mber: L	58169 LH901					Comments / # of Layers:	1000	Point C	ount, D	etection	Limit =	0,1%
Stereo- scope	ethod.						# of Preps: ( o	Horm	genous N	QC Y N	QC Analyst:		
%	9	Asbestos Type	Morphology	Color/PI	eochroism L	Indices	of Refraction	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM% [00	1/4	
			w c s					LM	P N		Quartz Tar	Carbonates Binder	Vermiculite Opaques
			WCS					LM	PN		Perlite	Amphibole	Gypsum
	9	Non-Asbest	os Fibers	Optical Pr	operties	Layered R	esults	Asbestos	Non-Asb.	Matrix	Talc	Feldspar	Mica
	<0.1%	Hornel	ende	1.665/	11.654						Clay Misc Particles	Organic Part. Foam	Diatoms

Type	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
A513	0	U	D	D	0	0	0	0	0
CLE	0	2	0	9	D	0	0	Ú.	U
NAS	100	100	[00]	100	100	100	(00	100	800
Total	100	100	10-	100	100	100	[03	007	for

Defection Limit = (000 ×100% =0, 1%



Form F OPT.001

# **PLM Point Count Additional Slides Worksheet**

Date: 05/23/19	Analyst: WT	Microscope: <u>0と分り</u>	
RJ Lee Group Sample Numbe	r: 3158169	RJ Lee Group Project Number: しんしょうしょうしょう	LH901997

Туре	Slide 9	Slide <u>(</u> 0	Slide	Slide	Slide	Slide	Slide	Slide	Total	
ASB	0	д							0	o o
CLE	)	J							0	٥
NAS	(00	(00							200	1000
Total	100	(00)							200	] /৩৩০

Туре	Slide	Total							
									717-11-11
								,	
Total									

Туре	Slide	Total							
									······································
Total									



Date:	05/23/19	Analyst:	WT	Scope:	023-0F	21	Sample Description:	Gray	Crusheo	1 Rock			
RJ Lee Gro Sample Nu RJ Lee Gro Project Nu Analysis M	up mber: <i>LL</i>	5\$170 1190199	7				Comments / # of Layers:	(000)	Point Co	ount, D	Detection	n Lilmit	=0.1%
Stereo- scope	etilou.						# of Preps: ( O	Homo	genous N	QC Y N	QC Analyst:		
%	%	Asbestos Type	Morphology	Color/Ple	ochroism L	Indices o	f Refraction 上	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM%	~°/0	
	CO:1%	Actinolife	w c s	CTR	N	1.638	1.632	LM	⊕ N	PL	Quartz	Carbonates	Vermiculite
	20,1%	Tremolite	wcs	COL	N	1.633	1.625	L OF	ĐΝ	PL	Tar	Binder	Spagues
			w c s					LM	PN		Perlite	Amphibole	Gypsum
		Non-Asbestos	Fibers	Optical Pro	operties	Layered Re	<u>sults</u>	Asbestos	Non-Asb.	Matrix	Talc	Feldspar	Mica
	<0.1%	Actinoli	te Cleanage	KI							Clay Misc(Part)icles	Organic Part. s Foam	Diatoms Foll

Туре	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
ASB	0	٥	٥	၁	0	0	0	o	0
CLE	2	0	O	0	0	J J	0	0	0
NAS	(00	(00	(00	(30	(00	(00	(00)	(00	800
Total	[00]	100	100	(00	100	(00	(00	(00	fo-

Defection Limit = 1000 ×100% = 0.1%



Form F OPT.001

# **PLM Point Count Additional Slides Worksheet**

Date:	05/23/19	_ Analyst: _	W	Microscope:	023-011	
RJ Lee G	roup Sample Numb	er: 31581	70	RJ Lee Group Project	Number:	LLH901997

Туре	Slide 9	Slide∕ <u>∪</u>	Slide	Slide	Slide	Slide	Slide	Slide	Total
AS13	٥	0							9
CLE	ð	0							0
NAS	(00	(00							200
		,							
Total	(00	(00							200

Type	Slide	Total							
					,				
Total									

Туре	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Total
	-								
									12
Total	<u> </u>								



		Analyst:	DF	_ Scope:	036-cf	ग 	Sample Description:	G (ex	Crushed	Rock			
	ımber: ろほ	8157											
	ımber: LLH	901997					Comments / # of Layers:	1000 p	+ count	Dekct	jon Limi	+ = 1000	x 100%-
Analysis M Stereo- scope	lethod:						# of Preps:	Homo	ogenous N	QC Y N	QC Analyst:		
%	%	Asbestos Type	Morphology	Color/Ple	eochroism 上	Indices o	f Refraction	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM%		
			W C S					L M L M	P N		Quartz	Carbonates	Vermiculite Opaques
			wcs					L M	P N		Perlite	Amphibole	Gypsum
	%	Non-Asbestos	Fibers	Optical Pro	operties	<u>Layered Res</u>	<u>sults</u>	Asbestos	Non-Asb.	Matrix	Talc Clay Misc Particles	Feldspar Organic Part.	Mica Diatoms Foil

Туре	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	Q00
ASB	Ø	B	Ø	Ø	0	0	æ	A	
Total	100	100	100	100	(60	(00	100	100	800

Detection Limit = 1 x 100% = 0.1



Form F OPT.001

		<u>!</u>	PLM Point (	Count Addi	tional Slide	s Workshee	<u>et</u>		
Date: <u></u>	15/21/19	Aı	nalyst:[	OF	Mic	croscope: _	036-01	оТ	
RJ Lee G	roup Sample	e Number: <sub>.</sub>	LLH90190	97	RJ Lee Gro	oup Project	Number:	315815	7
Type	Slide <u>9</u>	Slide <u>10</u>	Slide	Slide	Slide	Slide	Slide	Slide	Total
NAS	100	100							ZOO
ASB	0	e							
Total	100	100				-			1000
	1.00	1.00	<u> </u>		<u> </u>		.1.	<u> </u>	11000
Туре	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Total
Total									
Total		A							
Туре	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Total
Total									



RJ Lee Grou	mber: 3/5	8158 H 901997					Comments / # of Layers:	1000 p	+ count	Defection	n Limit 100%	= 0./
Stereo- scope							# of Preps:	Home	ogenous N	QC Y N	QC Analyst:	
%	%	Asbestos Type	Morphology	Color/Pl	eochroism 	Indices	of Refraction	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM%	
			w.cs					LM	PN		Quartz Carbonates V	Vermiculite
			wcs	1 - 1				LM	PN		Tar Binder	opaques
			WCS					LM	PN		Perlite Amphibole	Gypsum
	%	Non-Asbestos	Fibers	Optical Pr	operties	Layered R	esults	Asbestos	Non-Asb.	Matrix	Talc Feldspar	Mica
	1 %	Trem. (	Zev							<	Clay Organic Part. Misc Particles Foam	Diatoms Foil

Туре	Slide 1	Slide 2	Slide 3	Slide 4	Slide 5	Slide 6	Slide 7	Slide 8	Total
NAS	98	100	100	99	98	99	99	99	792
4SB	0	0	0	0	0	0	0	0	0
clev	2	0	0	1	2	L		I	8
	100	100	100	100	100	100		100	800



Form F OPT.001

Date: 6	5/14/19	A	nalyst: _	DF	N	licroscope:	036-0	DT	
RJ Lee G	roup Sampl	e Number:	315815	8	_ RJ Lee G	iroup Proje	ct Number:	LLH 9019	797
Туре	Slide 9	Slide 10	Slide	Slide	Slide	Slide	Slide	_ Slide _	Total
NAS	99	100							199
ASB	0							4 1 1 1	0
lev	1	of HIA							1
Total	100	100							1000
Туре	Slide	Slide	Slide	_ Slide	_ Slide	_ Slide	_ Slide	_ Slide	Total
Total						4			
						-			
Туре	Slide	Slide	Slide	_ Slide	_ Slide	_ Slide	_ Slide	_ Slide	Total
Total									



Date: 4	05/21/19	Analyst:	DF	Scope:	036-cp	Ţ	Sample Description:	Grush	ed Gr	y Rocl	۷.		
II .	ımber: 315	9159											
RJ Lee Gro Project Nu Analysis M	ımber: レレル・	961997					Comments / # of Layers:	100ppt	count	tction Limi 1000 X 100	1= 61		***************************************
Stereo- scope							# of Preps:	Homo	ogenous N	QC Y N	QC Analyst:		
<b> </b> %	%	Asbestos Type	Morphology		ochroism 	Indices o	f Refraction	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM%		
		.,,,,,	w c s					L M	P N	Arigic	Quartz )	Carbonates	Vermiculite
			w c s					LM	PN		Tar	Binder	Opaques
			wcs					LM	P N		Perlite	Amphibole	Gypsum
	%	Non-Asbestos	Fibers	Optical Pro	operties	Layered Res	sults	Asbestos	Non-Asb.	Matrix	Talc	Feldspar	Mica
											Clay	Organic Part.	Diatoms
											Misc Particles	Foam	Foil
				L									

Туре	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
ABS	e	ø	D	æ	0	0	٥	O	
-									
Total	100	100	100	100	(00	100	100	100	800

Detection Limit = 1000 x 100% = 0.1



Form F OPT.001

# PLM Point Count Additional Slides Worksheet

	5/21/19 roup Sample		nalyst: 3/58				036-01		1997
Туре	Slide 9	Slide 🖸	Slide	_ Slide _	Slide	Slide	Slide	Slide	Total
VAS	100	100							200
VAS 435	0	E							0
Total	100	100					1		1000

Type	Slide	_ Slide	Total						
									10
Total		1							

Туре	Slide	_ Slide	Total						
									li,
	1								
Total		11	1						



	ber: LL	-8160 H901 997	-				Comments / # of Layers:	locopt	Count I	Detection	Limit =	1 × 100%	20,/
Stereo- scope							# of Preps:	Home	ogenous N	QC Y N	QC Analyst:		
%	%	Asbestos Type	Morphology	Color/Ple	eochroism —	Indices of	of Refraction	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM%		
			WCS					LM	PN		Quartz	Carbonates	Vermiculite
			WCS					LM	PN	-	Tar	Binder	Opaques
			WCS					LM	PN		Perlite	Amphibole	Gypsum
	%	Non-Asbestos	Fibers	Optical Pr	operties	Layered Re	esults	Asbestos	Non-Asb.	Matrix	Talc	Feldspar	Mica
									-		Clay	Organic Part.	Diatoms
											Misc Particles	Foam	Foil
1													
						l .							

Туре	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
ASB	E	0	0	0	0	0	0	0	0
Total	100	100	100	100	100	100	100	100	800

Defection Limit = 1 x100% =0.1



Form F OPT.001

			PLM Poin	t Count Add	ditional Slid	les Workshe	eet		
Date: o	5/22/19	A	nalyst: _	DF	N	Aicroscope:	036-	OPT	
RJ Lee G	roup Sample	e Number:	315816	٥	_ RJ Lee G	Group Projec	t Number:	LLH90	1997
Туре	Slide 9	Slide 10	Slide	Slide	_ Slide _	_ Slide	_ Slide	_ Slide	Total
NAS	100	100							200
Total									1000
Туре	Slide	Slide	Slide	_ Slide	_ Slide	_ Slide	_ Slide	_ Slide	Total
Total									
	Taut	T = 1. 1		Laur	1	T	I same	-T	
Type	Slide	Slide	Slide	_ Slide	_ Slide	_ Slide	_ Slide	_ Slide	Total
					4				
<b>T.</b>									
Total									



Date:	05/16/19	Analyst:	DF	_ Scope:	036-01	<u>P</u> T	Sample Description:	Gray	Crushed	Rock			
RJ Lee Gro Sample N	oup umber: 315	8161						1		<u> </u>			
RJ Lee Gro Project No	oup umber: LLH	901997					Comments / # of Layers:	1000	at count	Defect	ion Limit:	= 1000 × 1	00%=0,1
Analysis N													
Stereo- scope							# of Preps: <b>1</b> 0	Home	genous N	QC Y N	QC Analyst:		
		Asbestos		Color/Ple	ochroism	Indices o	f Refraction	Birefrin-	Sign of	Extinction			
%	%	Туре	Morphology	- 11	上	II.		gence	Elongation	Angle	NFM%		
			WCS					LM	PN		Quartz	Carbonates	Vermiculite
			w c s					LM	PN		Tar	Binder	Opaques
			wcs					L M	ΡN		Perlite	Amphibole	Gypsum
	%	Non-Asbestos	Fibers	Optical Pro	operties	Layered Res	ults	Asbestos	Non-Asb.	Matrix	Talc	Feldspar	Mica
											Clay	Organic Part.	Diatoms
											Misc Particles	Foam	Foil
												, sum	1011
					***************************************								

Туре	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
A5B	0	Ø	.0	0	0	0	0	0	0
Total	100	100	100	100	100	100	100	100	400

Detection Limit = 1000 x100% = 0.1



Form F OPT.001

			PLM Point (	Count Addi	tional Slide	s Workshee	<u>et</u>		
Date: 💍	5/16/19	A	nalyst:	)F	Mic	croscope: _	036-0	pT	
RJ Lee Gi	roup Sample	e Number:	3158161	The state of the s	RJ Lee Gro	oup Project	Number:	LLH901	197
Туре	Slide 9	Slide 10	Slide	Slide	Slide	Slide	Slide	Slide	Total
NAS	100	100							200
ASB	0	0							
Total	0.03								
Total	100	100							1000
Туре	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Total
1,460		Jiide	Shac	Jilde	Jilac	Jilde	Jilde	Jilde	Total
· · · · · · · · · · · · · · · · · · ·				33300					
Total									
Туре	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Total
Total									



RJ Lee Gro	mber: 315° up	901997					Sample Description: Comments / # of Layers:				ion Limit 1000 x100% = 01
Stereo- scope							# of Preps:	Home	ogenous N	QC Y N	QC Analyst:
%	%	Asbestos Type	Morphology	Color/Ple	eochroism 	Indices	of Refraction	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM%
			WCS					LM	PN		Quartz Carbonates Vermiculite
			WCS					LM	PN	/	Tar Binder Opaques
			wcs					LM	PN		Perlite (Amphibole Gypsum
	%	Non-Asbestos	Fibers	Optical Pr	operties	Layered Re	esults	Asbestos	Non-Asb.	Matrix	Talc Feldspar Mica Clay Organic Part, Diatoms Misc Particles Foam Foil

Туре	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
		7.75				1			
Total									400

Detection Limit = 100 x 100% - 0.1



Form F OPT.001

			PLM Poin	t Count Add	ditional Slic	les Worksh	eet		
Date: _c	5/22/19	A	nalyst: _	DF		nicroscope:	036-	OPT	
RJ Lee G	roup Sampl	e Number:	315816	2	_ RJ Lee G	Group Projec	ct Number:	LLH901	997
Туре	Slide 9	Slide 10	Slide	_ Slide	_ Slide	_ Slide	_ Slide _	Slide	Total
	100	(00							200
					-				
					-				
Total									1000
Туре	Slide	Slide	Slide	_ Slide	_ Slide	_ Slide	_ Slide	_ Slide	Total
Total									
Туре	Slide	Slide	Slide	_ Slide	_ Slide	_ Slide	_ Slide	_ Slide	Total
Total									



RJ Lee Group Sample Num RJ Lee Group Project Num Analysis Met	ber: 315 ber: LLH						Sample Description: Comments / # of Layers:				Detection Limit: 1000 x100%		
Stereo- scope							# of Preps:	Homogenous QC Y N Y N			QC Analyst:		
%	%	Asbestos Type	Morphology		eochroism L	Indices	of Refraction	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM%		
	9.0		WCS					LM	PN		Quartz Carbonates Vermiculite		
			wcs					L M	PN	1	Tar Binder Opaques		
			WCS					L M	PN		Perlite Amphibole Gypsum		
	%	Non-Asbestos	Fibers	Optical Pr	operties	Layered R	<u>esults</u>	Asbestos	Non-Asb.	Matrix	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	100	100	100	100	100	100	100	100	800
AB5	0	0	0	0	0	0	0	0	
		11.7.71			1 8	11.			800
Total	100	100	100	100	100	(00	100	(00	-

Detection Limits: 1000 x 100% = 0.1



100

Total

100

Effective Date: March 2019

Form F OPT.001

# **PLM Point Count Additional Slides Worksheet**

Date: <u>o</u> s	5/22/19	Aı	nalyst:	DF	Mi	croscope: _	036-0 p	T				
RJ Lee Gr	oup Sample	Number:	3158171		RJ Lee Group Project Number: <u>LLH 90 1997</u>							
Type	Slide <u>9</u>	Slide <u>l</u> O	Slide	Slide	Slide	Slide	Slide	Slide	Total			
NAS	100	100							200			
ABS	٥	0							Ø			

Type	Slide	Total							
Total									

Туре	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Slide	Total
	MAILEN .								
Total									

1000



RJ Lee Grou	Nample Number: 315 8172  No Lee Group  Project Number:  Analysis Method: LLH 901997						Sample Description: Comments / # of Layers:						
Stereo- scope	Stereo-							Homogenous QC Y N Y N			QC Analyst:		
%	%	Asbestos Type	Morphology	Color/Pl	eochroism	Indices	of Refraction	Birefrin- gence	Sign of Elongation	Extinction Angle	NFM%		
			wcs					LM	PN		Quartz Carbonates	Vermiculite	
			WCS					L M	PN		Tar Binder	Opáques	
			WCS					LM	PN		Perlite Amphibole		
	%	Non-Asbestos	Fibers	Optical Pr	operties	Layered Re	esults	Asbestos	Non-Asb.	Matrix	Talc Feldspar Clay Organic Part Misc Particles Foam	Mica t. Diatoms Foil	

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
7.2	B	a	0	0	0	0	0	8	
Total	100	100	100	100	100	(00	100	100	800



Form F OPT.001

			PLM Poin	t Count Add	ditional Slic	les Worksh	eet				
Date: O	5/22/19	A	nalyst:	DF		Aicroscope:	036-	OPT			
RJ Lee G	roup Sampl	e Number:	3158	172	RJ Lee G	RJ Lee Group Project Number: <u>LLH901</u>					
Туре	Slide 9	Slide 10	Slide	_ Slide	_ Slide	_ Slide	_ Slide _	_ Slide _	Total		
NAS	100	100							280		
N4S ASB	C	0									
Total									[000		
Туре	Slide	Slide	Slide	_ Slide	_ Slide	_ Slide	_ Slide	_ Slide	Total		
Total		1									
T	CI: 4	T cu t	CI: 1	CIT	CI: I	611.1	T att 1	1			
Type	Slide	Slide	Slide	_ Slide	_ Slide	_ Slide	_ Slide	_ Slide	_ Total		
Total											