CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	7/21/2017 12:00:00 AM
Project:	LB89029	Date Received:	7/21/2017 12:00:00 AM
Client Sample ID:	HDD-PILWC3	SDG No.:	LB89029
Lab Sample ID:	I4407-01	Matrix:	Solid
Level (low/med):	low	% Solid:	78.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Phenolics	0.31	U	1	0.62		3.1	mg/Kg	07/24/2017	07/26/2017	9065

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Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB89029 **SDG No.:** LB89029

Contract: **Lab Code:** CHEM **Case No.:** LB89029 **SAS No.:** LB89029

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result mg/L	True Value	% Recovery	% RSD	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV1	Phenolics	1	1	100	0	90 - 110		07/26/2017	14:54	LB89029

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- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB89029 **SDG No.:** LB89029

Contract: **Lab Code:** CHEM **Case No.:** LB89029 **SAS No.:** LB89029

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result mg/L	True Value	% Recovery	% RSD	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV1	Phenolics	1	1	100	0	90 - 110		07/26/2017	14:54	LB89029
CCV2	Phenolics	1	1	100	0	90 - 110		07/26/2017	15:13	LB89029

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB89029 **SDG No.:** LB89029

Contract: **Lab Code:** CHEM **Case No.:** LB89029 **SAS No.:** LB89029

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Phenolics	0.0066	+/-0.05	U		0.05		07/26/2017	14:54	LB89029

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- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB89029 **SDG No.:** LB89029

Contract: **Lab Code:** CHEM **Case No.:** LB89029 **SAS No.:** LB89029

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Phenolics	0.0025	+/-0.05	U		0.05		07/26/2017	14:54	LB89029
CCB2	Phenolics	0.0023	+/-0.05	U		0.05		07/26/2017	15:13	LB89029

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- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB89029 **SDG No.:** LB89029

Contract: **Lab Code:** CHEM **Case No.:** LB89029 **SAS No.:** LB89029

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number

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PREPARATION BLANK SUMMARY

Client: LB89029 **SDG No.:** LB89029

Instrument: Konelab 20

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	LOD mg/Kg	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB100913BL		**SOLID**		**Batch Number:**		**PB100913**		**Prep Date:**	**07/24/2017**	
	Phenolics	0.16	<2.5	U		2.5		07/26/2017	14:54	LB89029

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MATRIX SPIKE SUMMARY

client: LB89029 **level:** low **sdg no.:** LB89029

contract: **lab code:** CHEM **case no.:** LB89029 **sas no.:** LB89029

matrix: Solid **sample id:** I4407-01 **client id:** HDD-PILWC3MS

Percent Solids for Sample: 78.6 **Spiked ID:** I4407-01MS **Percent Solids for Spike Sample:** 78.6

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Phenolics	mg/Kg	75 - 125	64.2		0.62	U	62.4	102.9		

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MATRIX SPIKE DUPLICATE SUMMARY

client: LB89029 **level:** low **sdg no.:** LB89029

contract: **lab code:** CHEM **case no.:** LB89029 **sas no.:** LB89029

matrix: Solid **sample id:** I4407-01 **client id:** HDD-PILWC3MSD

Percent Solids for Sample: 78.6 **Spiked ID:** I4407-01MSD **Percent Solids for Spike Sample:** 78.6

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Phenolics	mg/Kg	75 - 125	63.8		0.62	U	61.8	103.2		

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DUPLICATE SAMPLE SUMMARY

Client: LB89029 **Level:** LOW **SDG No.:** LB89029

Contract: **Lab Code:** CHEM **Case No.:** LB89029 **SAS No.:** LB89029

Matrix: Solid **Sample ID:** I4407-01 **Client ID:** HDD-PILWC3DUP

Percent Solids for Sample: 78.6 **Duplicate ID** I4407-01DUP **Percent Solids for Spike Sample:** 78.6

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Phenolics	mg/Kg	20	0.62	U	0.25	U			

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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DUPLICATE SAMPLE SUMMARY

Client: LB89029 **Level:** LOW **SDG No.:** LB89029

Contract: **Lab Code:** CHEM **Case No.:** LB89029 **SAS No.:** LB89029

Matrix: Solid **Sample ID:** I4407-01MS **Client ID:** HDD-PILWC3MSD

Percent Solids for Sample: 78.6 **Duplicate ID** I4407-01MSD **Percent Solids for Spike Sample:** 78.6

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Phenolics	mg/Kg	20	64.2		63.8		1		

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Instrument ID : KONELAB

284 Sheffield Street, Mountainside, New Jersey 07092 Phone : 908 789 8900 Fax : 908 789 8922

Daily Analysis Runlog For Sequence/QCBatch ID # LB89029

Review By

Review On

SubDirectory LB89029

Test : Phenolics

STD. NAME	STD REF.#
ICAL Standard	WP56664
ICV Standard	WP56665
CCV Standard	WP56666
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP56615
Chk Standard	WP53648,WP53649,WP56684

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	0.05PPM	0.05PPM	CAL1	07/26/17 14:19		OK
2	0.1PPM	0.1PPM	CAL2	07/26/17 14:19		OK
3	0.25PPM	0.25PPM	CAL3	07/26/17 14:19		OK
4	0.50PPM	0.50PPM	CAL4	07/26/17 14:19		OK
5	1.0PPM	1.0PPM	CAL5	07/26/17 14:19		OK
6	2.0PPM	2.0PPM	CAL6	07/26/17 14:19		OK
7	ICV1	ICV1	ICV	07/26/17 14:54		OK
8	ICB1	ICB1	ICB	07/26/17 14:54		OK
9	CCV1	CCV1	CCV	07/26/17 14:54		OK
10	CCB1	CCB1	CCB	07/26/17 14:54		OK
11	PB100913BL	PB100913BL	MB	07/26/17 14:54		OK
12	PB100913BS	PB100913BS	LCS	07/26/17 14:54		OK
13	I4407-01	HDD-PILWC3	SAM	07/26/17 14:54		OK
14	I4407-01DUP	HDD-PILWC3DUP	DUP	07/26/17 14:54		OK
15	I4407-01MS	HDD-PILWC3MS	MS	07/26/17 15:13		OK
16	I4407-01MSD	HDD-PILWC3MSD	MSD	07/26/17 15:13		OK
17	CCV2	CCV2	CCV	07/26/17 15:13		OK
18	CCB2	CCB2	CCB	07/26/17 15:13		OK