HAZARDOUS WASTE SECTION - COMPLIANCE BRANCH
FILE TRANSMITTAL & DATA ENTRY FORM

Facility ID Number: NCD097728091

Facility Name: VISHAY MEASUREMENTS GROUP INC.

Document Group: General (G)

Document Type: Other (O)

File Description/Comments: Petition for Delisting

Date of Document: 1/3/2014

Author(s) of Document: Hakim Lundy

Inspector Name: N/A

Suborganization:

County (if not on report): Wake

VISHAY
PRECISION
GROUP

January 3, 2014

North Carolina Department of Environment and Natural Resources
Division of Waste Management
Hazardous Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Attention: Julie Wooseley

Subject: Petition for Delisting
Vishay Measurements Group, Inc.
Wendell, North Carolina

Dear Ms. Wooseley:

In accordance with Section 260.22 of the Hazardous Waste Code of North Carolina, a petition is hereby submitted for the delisting of a waste produced by Vishay Measurements Group, Inc. This waste is currently classified as a type F-006 waste. This standard requires that the petitioner demonstrate that the waste produced by a particular generating facility does not meet the criteria under which the waste was listed as a hazardous waste. It is the intention of Vishay Measurements Group, Inc. to provide appropriate evidence to support this petition.

The waste for which this petition is made is a composite of waste generated in three distinct processes. These are:

1) Cupric Etching
2) Phosphate Etching
3) Electroplating

Each process generates wastewater which is treated by one of three on-site pretreatment processes which has been installed to specifically treat the waste from that specific process. The waste water treatment system for each of the three processes generates a filter cake. These three filter cakes are generated in approximately equal weekly volumes. All three filter cakes are mixed and the resulting composited filter cake has historically been shipped off-site for disposal as a hazardous waste as defined by F-006.

Testing has been conducted to identify constituents of each of the three waste streams and to identify constituents of the composited waste. In each and every test, the filter cakes and composited waste do not exhibit any hazardous waste characteristics.

In order to support this petition, it is understood that additional sampling and analysis will be required and that a sampling plan must be submitted and approved prior to conducting the sampling.

SAMPLING PLAN

Sampling, and subsequent laboratory analysis, is proposed to demonstrate that the waste is consistent over time with regard to the waste generated from each process and from the composited waste. This sampling is intended to supplement the data collected during prior sampling and analysis events. All analyses will be conducted by a licensed North Carolina laboratory using protocols and methods specified in Section 260.11.

It is proposed that four sampling events be conducted. Each event will include a TCLP analysis for metals for each of the three processes and for the composited waste. Additionally, each sampling event will include an analysis for hexavalent chromium, cyanide (complexed), and nickel. One of the events will also include a full TCLP analysis of the composited waste. This sampling schedule for parameters other than TCLP metals is based on the fact that previous sampling has not indicated the presence of any hazardous waste characteristics (ignitability, corrosivity, reactivity, or toxicity) nor has the TCLP analysis for volatiles, semi-volatiles, pesticides, and herbicides detected any such constituents or characteristics. None of these constituents are used in any of the processes and it is concluded that none are present.

Sampling Event	1	2	3	4
Cupric Etching Process	TCLP metals plus cyanide, hexavalent chrome, and nickel	TCLP metals plus cyanide, hexavalent chrome, and nickel	TCLP metals plus cyanide, hexavalent chrome, and nickel	TCLP metals plus cyanide, hexavalent chrome, and nickel
Phosphate Etching Process	TCLP metals plus cyanide, hexavalent chrome, and nickel	TCLP metals plus cyanide, hexavalent chrome, and nickel	TCLP metals plus cyanide, hexavalent chrome, and nickel	TCLP metals plus cyanide, hexavalent chrome, and nickel
Electroplating Process	TCLP metals plus cyanide, hexavalent chrome, and nickel	TCLP metals plus cyanide, hexavalent chrome, and nickel	TCLP metals plus cyanide, hexavalent chrome, and nickel	TCLP metals plus cyanide, hexavalent chrome, and nickel
Composited waste from all three processes	Full TCLP plus cyanide, hexavalent chrome, and nickel	TCLP metals plus cyanide, hexavalent chrome, and nickel	TCLP metals plus cyanide, hexavalent chrome, and nickel	TCLP metals plus cyanide, hexavalent chrome, and nickel

EXISTING DATA

A full TCLP analysis as well as an analysis for total metals was conducted on November 11, 2013 and a report of that analysis, dated November 25, 2013, is attached for your use in reviewing this request and for assessing the adequacy of the sampling plan. The attached data was generated from the analysis of a sample of the composited waste. Also attached are the results from TCLP analyses of samples collected from the Cupric Etching waste stream and the Phosphate Etching waste stream.

OTHER FACTORS

The waste for which delisting is requested contains nickel which is a hazardous constituent under Appendix VIII and is listed as a factor in creating the F-006 category in Appendix VII. Vishay Measurements Group, Inc. seeks to establish that the nickel present in the waste does not pose a threat to the environment as outlined in Section 261.11 (a)(3).

It is the intent of Vishay Measurements Group, Inc. to comply fully with the letter and intent of all applicable hazardous waste regulations and to be good corporate stewards of the environment. If granted, this delisting would result in a tremendous reduction in disposal costs, while having no significant impact on the environment. Thank you for your consideration of this request.

Please advise if additional information or action is needed.

Sincerely,
VISHAY MEASUREMENTS GROUP, INC.

Hakim Lundy
EH&S Supervisor

ESC
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YOUR LAB OF CHOICE

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Bill Boyer
GARCO, Inc.
PO Box 1907
Asheboro, NC 27204

Report Summary

Thursday November 21, 2013

Report Number: L668121
Samples Received: 11/12/13
Client Project:

Description: Vishay Filtercake

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Bill Boyer
GARCO, Inc.
PO Box 1907
Asheboro, NC 27204

November 21, 2013

Date Received : November 12, 2013
Description : Vishay Filtercake

Sample ID : VISHAY

Collected By : Frank Baldwin
Collection Date : 11/11/13 10:45

ESC Sample # : L668121-01 (Full TCLP)

Site ID : WENDELL, NC

Project :

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
Corrosivity	Non-Corrosiv				9045D	11/19/13 1541	ADF	1
Ignitability	See Footnote		Deg. F		D93/101	11/19/13 1555	JBG	1
pH	7.8		su		9045D	11/19/13 1403	JW	1
Paint Filter Test	See Footnote		%		9095B	11/15/13 1427	JBG	1
Reactive CN (SW846 7.3.3.2)	BDL	0.125	mg/kg		9012B	11/14/13 1615	ASK	1
Reactive Sulf.(SW846 7.3.4.1)	BDL	25.	mg/kg		9034/90	11/14/13 1601	DJD	1
TCLP Extraction	-				1311	11/16/13 0727	MVE	1
Mercury	BDL	0.0010	mg/l	0.20	7470A	11/18/13 1439	CHM	1
Arsenic	BDL	0.050	mg/l	5.0	6010B	11/20/13 1115	ALT	1
Barium	BDL	0.15	mg/l	100	6010B	11/20/13 1115	ALT	1
Cadmium	BDL	0.050	mg/l	1.0	6010B	11/20/13 1115	ALT	1
Chromium	BDL	0.050	mg/l	5.0	6010B	11/20/13 1115	ALT	1
Lead	0.77	0.050	mg/l	5.0	6010B	11/20/13 1115	ALT	1
Selenium	BDL	0.050	mg/l	1.0	6010B	11/20/13 1115	ALT	1
Silver	0.063	0.050	mg/l	5.0	6010B	11/20/13 1115	ALT	1
TCLP ZHE Extraction	-				1311	11/15/13 0659	ALH	1
TCLP Volatiles								
Benzene	BDL	0.050	mg/l	0.50	8260B	11/16/13 1620	RB	1
Carbon tetrachloride	BDL	0.050	mg/l	0.50	8260B	11/16/13 1620	RB	1
Chlorobenzene	BDL	0.050	mg/l	100	8260B	11/16/13 1620	RB	1
Chloroform	BDL	0.25	mg/l	6.0	8260B	11/16/13 1620	RB	1
1,2-Dichloroethane	BDL	0.050	mg/l	0.50	8260B	11/16/13 1620	RB	1
1,1-Dichloroethene	BDL	0.050	mg/l	0.70	8260B	11/16/13 1620	RB	1
2-Butanone (MEK)	BDL	0.50	mg/l	200	8260B	11/16/13 1620	RB	1
Tetrachloroethene	BDL	0.050	mg/l	0.70	8260B	11/16/13 1620	RB	1
Trichloroethene	BDL	0.050	mg/l	0.50	8260B	11/16/13 1620	RB	1
Vinyl chloride	BDL	0.050	mg/l	0.20	8260B	11/16/13 1620	RB	1
Surrogate Recovery								
Toluene-d8	102.		% Rec.	114.	8260B	11/16/13 1620	RB	1
Dibromofluoromethane	117.		% Rec.	125.	8260B	11/16/13 1620	RB	1
a,a,a-Trifluorotoluene	107.		% Rec.	114.	8260B	11/16/13 1620	RB	1
4-Bromofluorobenzene	92.1		% Rec.	128.	8260B	11/16/13 1620	RB	1

L668121-01 (PH) - 7.8@21.7c
L668121-01 (PAINT) - Contains No Free Liquid
L668121-01 (IGNITABILITY) - Did Not Ignite @ 170 F

ESC LAB SCIENCES
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Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Bill Boyer
GARCO, Inc.
PO Box 1907
Asheboro, NC 27204

November 21, 2013

ESC Sample # : L668121-01

Site ID : WENDELL, NC

Project :

Date Received : November 12, 2013
Description : Vishay Filtercake

Sample ID : VISHAY

Collected By : Frank Baldwin
Collection Date : 11/11/13 10:45

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Pesticides								
Chlordane	BDL	0.0050	mg/l	0.030	8081A	11/20/13 1539	CBB	1
Endrin	BDL	0.0050	mg/l	0.020	8081A	11/20/13 1539	CBB	1
Heptachlor	BDL	0.0050	mg/l	0.0080	8081A	11/20/13 1539	CBB	1
Lindane	BDL	0.0050	mg/l	0.40	8081A	11/20/13 1539	CBB	1
Methoxychlor	BDL	0.0050	mg/l	10.	8081A	11/20/13 1539	CBB	1
Toxaphene	BDL	0.010	mg/l	0.50	8081A	11/20/13 1539	CBB	1
Surrogate Recovery								
Decachlorobiphenyl	95.4		% Rec.	123.	8081A	11/20/13 1539	CBB	1
Tetrachloro-m-xylene	91.4		% Rec.	114.	8081A	11/20/13 1539	CBB	1
TCLP Herbicides								
2,4,5-TP (Silvex)	BDL	0.0020	mg/l	1.0	8151A	11/20/13 2032	KLM	1
2,4-D	BDL	0.0020	mg/l	10.	8151A	11/20/13 2032	KLM	1
Surrogate Recovery								
2,4-Dichlorophenyl Acetic Acid	99.0		% Rec.		8151A	11/20/13 2032	KLM	1
TCLP Semi-Volatiles								
1,4-Dichlorobenzene	BDL	0.10	mg/l	7.5	8270C	11/19/13 2248	KMF	1
2,4-Dinitrotoluene	BDL	0.10	mg/l	0.13	8270C	11/19/13 2248	KMF	1
Hexachlorobenzene	BDL	0.10	mg/l	0.13	8270C	11/19/13 2248	KMF	1
Hexachloro-1,3-butadiene	BDL	0.10	mg/l	0.50	8270C	11/19/13 2248	KMF	1
Hexachloroethane	BDL	0.10	mg/l	3.0	8270C	11/19/13 2248	KMF	1
Nitrobenzene	BDL	0.10	mg/l	2.0	8270C	11/19/13 2248	KMF	1
Pyridine	BDL	0.10	mg/l	5.0	8270C	11/19/13 2248	KMF	1
3&4-Methyl Phenol	BDL	0.10	mg/l	400	8270C	11/19/13 2248	KMF	1
2-Methylphenol	BDL	0.10	mg/l	200	8270C	11/19/13 2248	KMF	1
Pentachlorophenol	BDL	0.10	mg/l	100	8270C	11/19/13 2248	KMF	1
2,4,5-Trichlorophenol	BDL	0.10	mg/l	400	8270C	11/19/13 2248	KMF	1
2,4,6-Trichlorophenol	BDL	0.10	mg/l	2.0	8270C	11/19/13 2248	KMF	1
Surrogate Recovery								
2-Fluorophenol	27.0		% Rec.	87.0	8270C	11/19/13 2248	KMF	1
Phenol-d5	15.4		% Rec.	67.0	8270C	11/19/13 2248	KMF	1
Nitrobenzene-d5	67.9		% Rec.	120.	8270C	11/19/13 2248	KMF	1
2-Fluorobiphenyl	87.3		% Rec.	122.	8270C	11/19/13 2248	KMF	1
2,4,6-Tribromophenol	79.1		% Rec.	148.	8270C	11/19/13 2248	KMF	1
p-Terphenyl-d14	91.7		% Rec.	149.	8270C	11/19/13 2248	KMF	1

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)
Limit - Maximum Contaminant Level as established by the US EPA
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 11/21/13 11:31 Printed: 11/21/13 14:05
L668121-01 (PH) - 7.8@21.7c
L668121-01 (PAINT) - Contains No Free Liquid
L668121-01 (IGNITABILITY) - Did Not Ignite @ 170 F

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REPORT OF ANALYSIS

Bill Boyer
GARCO, Inc.
PO Box 1907
Asheboro, NC 27204

November 21, 2013

Date Received : November 12, 2013
Description : Vishay Filtercake

Sample ID : VISHAY

Collected By : Frank Baldwin
Collection Date : 11/11/13 10:45

ESC Sample # : L668121-02 (Total Metals)

Site ID : WENDELL, NC

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate-Nitrite	BDL	2.0	mg/kg	9056	11/13/13	1
Phosphate as P	93.	1.0	mg/kg	9056	11/13/13	1
Total Nitrogen	210	1.0	mg/kg	Calc.	11/19/13	1
Ammonia Nitrogen	19.	5.0	mg/kg	350.1	11/19/13	1
Kjeldahl Nitrogen, TKN	210	20.	mg/kg	4500NOrg C-20	11/16/13	1
Mercury	BDL	0.020	mg/kg	7471	11/14/13	1
Aluminum	10000	5.0	mg/kg	6010B	11/19/13	1
Arsenic	1.6	1.0	mg/kg	6010B	11/19/13	1
Cadmium	BDL	25.	mg/kg	6010B	11/19/13	100
Calcium	190	25.	mg/kg	6010B	11/19/13	1
Copper	120000	20.	mg/kg	6010B	11/19/13	20
Lead	440	0.25	mg/kg	6010B	11/19/13	1
Magnesium	3600	5.0	mg/kg	6010B	11/19/13	1
Molybdenum	0.99	0.25	mg/kg	6010B	11/19/13	1
Nickel	3300	1.0	mg/kg	6010B	11/19/13	1
Potassium	190	25.	mg/kg	6010B	11/19/13	1
Selenium	BDL	1.0	mg/kg	6010B	11/19/13	1
Sodium	930	25.	mg/kg	6010B	11/19/13	1
Zinc	390	1.5	mg/kg	6010B	11/19/13	1
Polychlorinated Biphenyls						
PCB 1016	BDL	0.085	mg/kg	8082	11/20/13	5
PCB 1221	BDL	0.085	mg/kg	8082	11/20/13	5
PCB 1232	BDL	0.085	mg/kg	8082	11/20/13	5
PCB 1242	BDL	0.085	mg/kg	8082	11/20/13	5
PCB 1248	BDL	0.085	mg/kg	8082	11/20/13	5
PCB 1254	BDL	0.085	mg/kg	8082	11/20/13	5
PCB 1260	BDL	0.085	mg/kg	8082	11/20/13	5
PCBs Surrogates						
Decachlorobiphenyl	108.		% Rec.	8082	11/20/13	5
Tetrachloro-m-xylene	113.		% Rec.	8082	11/20/13	5

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 11/21/13 11:31 Printed: 11/21/13 14:05

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L668121-01	WG692460	SAMP	Paint Filter Test	R2855260	T4
	WG692952	SAMP	2,4-Dinitrotoluene	R2857675	J4
L668121-02	WG692301	SAMP	Cadmium	R2857520	O

Research & Analytical Laboratories, Inc.
Analytical/Process Consultations

ty Characteristic Leachate Procedure (TCLP) Analysis of Selected Sample Locations Identified as Vishay
uthern Logistics Environmental, LLC Project, collected 11 February 2013)

EPA HW Number	Contaminant	Phos Cake Results (mg/L)	Characteristic Level(mg/L)	EPA Method
'LP METALS				
D-004	Arsenic	<0.010	5.00	6010
D-005	Barium	<0.010	100	6010
D-006	Cadmium	<0.005	1.00	6010
D-077	'Chromium	<0.010	5.00	6010
D-008	Lead	<0.005	5.00	6010
D-009	Mercury	<0.002	0.200	7470
D-010	Selenium	<0.100	1.00	6010
D-011	Silver	<0.010	5.00	6010
N/A	Nickel	0.080	N/A	6010
	Sample Number	751089		
	Sample Date	02/11/13		
	Sample Time (hrs)	1415		
	Sample Matrix	Solid		

/L = milligrams per Liter = parts per million (ppm)

BQL = Below Quantitation Limits

Research & Analytical Laboratories, Inc.
Analytical/Process Consultations

RESEARCH & ANALYTICAL LABS. SIDNEY L. CHAMPION NC #34 DIRECTOR CERTIFIED ANALYSIS

Toxicity Characteristic Leachate Procedure (TCLP) Analysis of Selected Sample Locations Identified as Vishay
(A Southern Logistics Environmental, LLC Project, collected 11 February 2013)

EPA HW Number	Contaminant	Cu Cake Results (mg/L)	Characteristic Level(mg/L)	EPA Method
I. TCLP METALS				
D-004	Arsenic	<0.100	5.00	6010
D-005	Barium	<0.100	100	6010
D-006	Cadmium	<0.010	1.00	6010
D-077	Chromium	<0.100	5.00	6010
D-008	Lead	0.221	5.00	6010
D-009	Mercury	<0.002	0.200	7470
D-010	Selenium	<0.100	1.00	6010
D-011	Silver	<0.100	5.00	6010
N/A	Nickel	178	N/A	6010
	Sample Number	751088		
	Sample Date	02/11/13		
	Sample Time (hrs)	1400		
	Sample Matrix	Solid		

mg/L = milligrams per Liter = parts per million (ppm)

BQL = Below Quantitation Limits