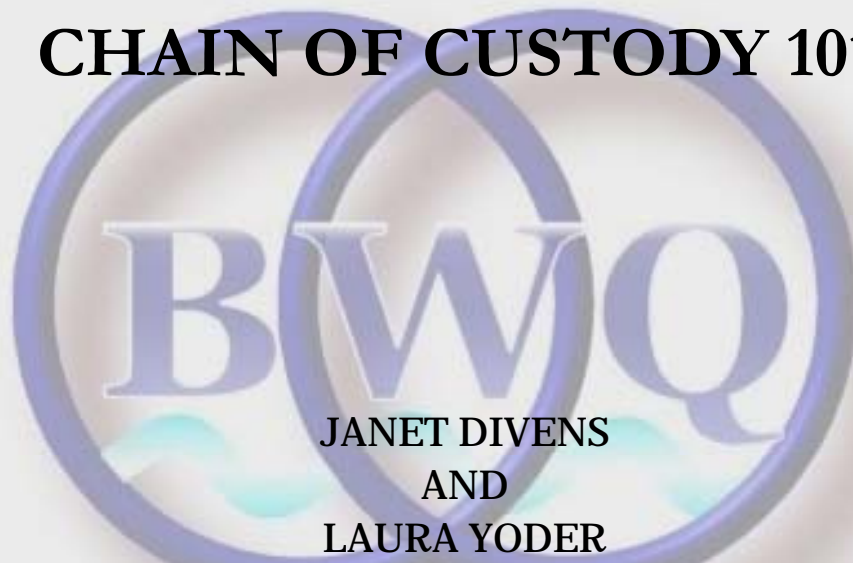


# CHAIN OF CUSTODY 101



JANET DIVENS  
AND  
LAURA YODER  
BUREAU OF WATER QUALITY  
MUNCIE SANITARY DISTRICT

Regulatory agencies must be able to prove the legal integrity of all samples and data if they go to litigation against an industry.

You must have an accurate written record to track the possession, handling, and location of samples and data from collection through reporting.

This is where the “Chain of Custody” comes into the picture.

## EPA's definition of Chain of Custody:

“Chain of Custody is a legal document that refers to the ability to guarantee the identity and integrity of the sample (or data) from collection through reporting of the test results.”

### WHEN IS SOMETHING IN YOUR CUSTODY?

EPA considers a sample or data to be in your custody when:

1. They are in your physical possession;
2. They are in your view, after being in your physical possession;
3. They are in your physical possession and then locked up so that tampering cannot occur;
4. They are kept in a secured area, with access restricted to authorized personnel only.

EPA LISTS THE FOLLOWING CHAIN-OF-CUSTODY GUIDELINES:

1. KEEP THE NUMBER OF PEOPLE INVOLVED IN COLLECTING AND HANDLING SAMPLES AND DATA TO A MINIMUM
2. ONLY ALLOW PEOPLE ASSOCIATED WITH THE PROJECT TO HANDLE SAMPLES AND DATA
3. ALWAYS DOCUMENT THE TRANSFER OF SAMPLES AND DATA FROM ONE PERSON TO ANOTHER ON CHAIN-OF-CUSTODY FORMS
4. ALWAYS ACCOMPANY SAMPLES AND DATA WITH THEIR CHAIN-OF-CUSTODY
5. GIVE SAMPLES AND DATA POSITIVE IDENTIFICATION AT ALL TIMES THAT IS LEGIBLE AND WRITTEN WITH PERMANENT INK

Even where litigation is not involved,  
Chain of Custody procedures are useful for  
routine control of samples.

Bureau of Water Quality, MSD  
Analytical Data Report and Chain of Custody

Sample Date: \_\_\_\_\_, 2011 Time: \_\_\_\_\_ Sample Site: \_\_\_\_\_  
 Permitted Discharge: Yes/No Compliance Sample: Yes/No User Charge: Yes/No

Bottle#: \_\_\_\_\_

Linko #: \_\_\_\_\_  
Sample Location ID: \_\_\_\_\_

**Chemical, Bacteriological and Surveillance Results**

ANALYTE	RESULT	DATE RUN	ANALYST	METHOD
NH <sub>3</sub> -N	mg/L			Ag AA / ICP
COD	mg/L			As AA / ICP
BOD	mg/L			B ICP
TBOD dilution	%			Cd AA / ICP
Cl	mg/L			Cr AA / ICP
Cl <sub>2</sub>	mg/L			Cu AA / ICP
CN	mg/L			Fe ICP
CN pH	> 12.0 SU			Hg AA / ICP
E. coli	CFU/100 ml			K ICP
E. coli log <sub>10</sub>				Mo ICP
NO <sub>3</sub> -NO <sub>2</sub> -N	mg/L			Ni AA / ICP
%TS	%			Pb AA / ICP
%V5	%			Sb AA / ICP
PO <sub>4</sub> -P	mg/L			Se AA / ICP
pH	SU			Zn ICP
pH Time	hours	Temperature	°C	
TSS	mg/L			
TSS Volume	ml			
DO	mg/L			
Temperature	°C			
Turbidity	NTU			

LAB COMMENTS: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ APPROVAL DATE: \_\_\_\_\_

Bureau of Water Quality, MSD  
5150 W Kilgore Ave., Muncie, IN 47304 4710  
Phone: 765.747.4896 Fax: 765.213.6444  
[www.muncieanllary.org/bwq](http://www.muncieanllary.org/bwq)

Linko #: \_\_\_\_\_

Facility/Stream Name:	ID#	# / Type	Matrix	See	Preserved by
Type of Survey:		P - Plastic	Codes		
Sampler's Signatures		G - Glass	Below		
Date	Time	Comp Grab	Preservative	Station Location	
					xx xx xx xx xx
					xx xx xx xx xx
					xx xx xx xx xx
					xx xx xx xx xx
					xx xx xx xx xx
					xx xx xx xx xx
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received in Lab by	Date	Time

Composite Type: Time / Flow Proportional \_\_\_\_\_ Samples Taken - \_\_\_\_\_ ml Every Five (5) Minutes Sample Tested +/ - for Sulfides, Lead carbonate Added YES / NO  
 Sampler started \_\_\_\_\_ at \_\_\_\_\_ hours Sampler Stopped \_\_\_\_\_ at \_\_\_\_\_ hours Sample Tested +/ - for Chlorine, Sodium thiosulfate Added YES / NO  
 River Depth \_\_\_\_\_ feet River Velocity \_\_\_\_\_ CFS at \_\_\_\_\_ hours Plant Flow \_\_\_\_\_ MGD at \_\_\_\_\_ hours


Surveillance Comments:	Matrix	Matrix Code	Laboratory Use Only	Yes	No
	Waste Water	WW	Custody Seals Present/Intact?		
	Stream Sample	SS	Broken Containers?		
	Ground Water	GW	COC Agrees with Sample Labels?		
	Storm Water	SW	Correct Containers for Testing?		
	Oil	O	Preserved sample pH Acceptable?		
	Sludge	SL	Sample Preserved by BWQ Lab Staff?		
	Soil	SO	Sample Preserved by BWQ Surveillance Staff?		
	Other	OT	Sufficient Sample Volume?		
			Attempt made to Cool Samples?		
Approved by:	Date:		Cooler #	at	°C





### BWQ Sampling Label and Custody Seal

BUREAU OF WATER QUALITY	
INDUSTRY/STREAM:	XYZ Plating Co.
SITE NAME:	Last drain inside building
SAMPLE ID#	013-002 (GRAB/COMPOSITE)
DATE:	4-20-11 PRESERVATIVE: NaOH
TIME:	1030 COLLECTED BY: JLB LYY
ANALYSIS:	CHLORINE: (+) / -
CN	SULFIDES + / (-)

CUSTODY SEAL		Sample ID#	I-CHEM™ Brand Products
Date	4-20-11 @ 1030	013-002	 <small>High Pure International</small>
Signature	Laura V. Yoder		

### Custody Seals

Standard Methods says to use custody seals to detect unauthorized tampering of the samples up to the time of analysis. Use self-adhesive paper seals with the following information:

1. Sample's unique number (identical with the number on the sample label)
2. Collector's name
3. Date and time of sampling

Standard methods also states that you may use plastic shrink seals.

Attach the seals in such a way that it is necessary to break it to open the sample container or sample shipping container (Cooler). Affix seal before sample leaves your possession.

Bureau of Water Quality, MSD  
Analytical Data Report and Chain of Custody Linko # 325052

Sample Location ID: 099-001

Sample Date: 4-20-2011 Time: 1010 Sample Site: MIGHTY WIDGET CO

Permitted Discharge: Yes/No Compliance Sample: Yes/No User Charge: Yes/No

Bottle#: 11-10 324 462 488 510 566

METAL RESULTS (mg/L, Wt/Wt) or µg/L (ppb, Wt/Wt)  
Metal Sample pH (2.8-8.5) Date: Analyst:  
ICP Analysis File: Analyst:  
GFAAS Results File: Analyst:

**Chemical, Bacteriological and Surveillance Results**

ANALYTE	RESULT	DATE RUN	ANALYST	GFAAS Results File	Analyst
<u>(NH<sub>4</sub>-N)</u>	mg/L			<u>(Ag)</u>	AA/ICP
<u>(CIBI)</u>	mg/L			<u>(As)</u>	AA/ICP
<u>(BOD)</u>	mg/L			<u>(B)</u>	ICP
TBOD dilution	%			<u>(Cd)</u>	AA/ICP
Cl	mg/L			<u>(Co)</u>	AA/ICP
Cl <sub>2</sub>	mg/L			<u>(Cr)</u>	AA/ICP
CN	mg/L			<u>(Fe)</u>	ICP
CN pH	> 12.0 SU			<u>(Hg)</u>	AA/ICP
<u>(E.coli)</u>	CFU/100 ml			<u>(K)</u>	ICP
<u>(E. coli total)</u>				<u>(Mn)</u>	ICP
<u>(NO<sub>3</sub>-NO<sub>2</sub>-N)</u>	mg/L			<u>(Ni)</u>	AA/ICP
%TS	%			<u>(Pb)</u>	AA/ICP
%VS	%			<u>(Se)</u>	AA/ICP
PO <sub>4</sub> -P	mg/L			<u>(Zn)</u>	AA/ICP
pH	SU				ICP
pH Time	hours	Temperature	°C		AA/ICP
<u>(TSS)</u>	mg/L				AA/ICP
TSS Volume	ml				AA/ICP
DO	mg/L				AA/ICP
Temperature	°C				AA/ICP
Turbidity	NTU				AA/ICP
<u>(F)</u>					AA/ICP

LAB COMMENTS \_\_\_\_\_

APPROVED BY \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

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Linko # 325053

Facility/Stream Name: MIGHTY WIDGET CO ID# 099-002

Type of Survey: INDUSTRIAL MONITORING

Sampler's Signatures: Janet Divens Laura Yoder

Date	Time	Comp-Grab	Preservative	Station Location	# / Type	Matrix	See	Ag, Cd, Cr, Cu, Ni, Pb, Zn	NH <sub>4</sub> -N	Fluoride	(NO <sub>3</sub> + NO <sub>2</sub> )-N	TBOD	TSS	Preserved by
4-20-11	1030	Comp	HNO <sub>3</sub>	Taken from last drain inside building	6 / P	WW	1	xx	xx	xx	xx	xx	xx	CRJ
			H <sub>2</sub> SO <sub>4</sub>					xx	1	xx	xx	xx	xx	JLD
			H <sub>2</sub> SO <sub>4</sub>					xx	xx	1	xx	xx	xx	JLD
			H <sub>2</sub> SO <sub>4</sub>					xx	xx	xx	xx	1	xx	
								xx	xx	xx	xx	xx	1	

Relinquished by Janet Divens Date 4-20-11 Time 1050 Received by Dave Bradway Date 4-20-11 Time 1050

Relinquished by Dave Bradway Date 4-20-11 Time 1115 Received by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Relinquished by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Relinquished by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received in Lab by Charles Jones Date 4-20-11 Time 1115

Composite Type: (Time) Flow Proportional 288 Samples Taken - 50 ml Every Five (5) Minutes Sample Tested +/ - for Sulfides, Lead carbonate Added YES/ NO

Sampler started 4-19-11 at 1015 hours Sampler Stopped 4-20-11 at 1010 hours Sample Tested (-) for Chlorine, Sodium thiosulfate Added YES (NO)

River Depth \_\_\_\_\_ feet River Velocity \_\_\_\_\_ CFS at \_\_\_\_\_ hours Plant Flow \_\_\_\_\_ MGD at \_\_\_\_\_ hours

Surveillance Comments:

Matrix	Matrix Code	Laboratory Use Only	Yes	No
Waste Water	WW	Custody Seals Present/Intact?	X	
Stream Sample	SS	Broken Containers?		X
Ground Water	GW	COC Agrees with Sample Labels?	X	
Storm Water	SW	Correct Containers for Testing?	X	
Oil	O	Preserved sample pH Acceptable?	X	
Sludge	SL	Sample Preserved by BWQ Lab Staff?	X	
Soil	SO	Sample Preserved by BWQ Surveillance Staff?	X	
Other	OT	Sufficient Sample Volume?	X	
		Attempt made to Cool Samples?	X	

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_ Cooler # 3 at 3.0 °C

IDEM CHAIN OF CUSTODY FOR NPDES SAMPLES

Facility Name MWPCF Chain of Custody and Preservation Record for Samples  
 Preservation Methods: 1 = Ammonia/Phosphorus (pH < 2 with H<sub>2</sub>SO<sub>4</sub>, Cool ≤ 6°C) 2 = BOD, and Solids (Cool ≤ 6°C)  
 3 = Bacteria (Cool < 10°C + 0.0008% Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> if Chlorine is present) 4 = NA - Sample analyzed upon receipt (pH/TRC)  
 5 = Metals (pH < 2 with HNO<sub>3</sub>) 6 = \*Cyanide (Cool ≤ 6°C, pH ≥ 12 with NaOH)  
 7 = Other \* - Consult method for sample pretreatment  
 Sample Type: G = Grab C = Composite = 24 -hour Flow Proportional

Sample ID	Sample Collection Data			# of Bottles	Collected by	Sample Receipt Data			Preservation Method							# Bottles Preserved	Preserved by	
	Sample Date	Sample Time	Sample Type			Date	Time	Received by	1	2	3	4	5	6	7			
201-024	4-20-11	1159	C	3	WMC	4-20-11	1215	CRJ	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							1	CMC
												<input checked="" type="checkbox"/>					1	CRJ

Comments: \_\_\_\_\_ Chain of Custody and Preservation Record Created 12/2008

HERITAGE LABORATORIES CHAIN OF CUSTODY FORM

TO ENSURE PROPER HANDLING OF SAMPLES PLEASE COMPLETE THE SHADED AREAS OF THIS FORM  
**HERITAGE ENVIRONMENTAL SERVICES, LLC.**  
 COMMERCIAL LABORATORY OPERATIONS  
 7901 West Morris Street Indianapolis IN 46231  
 www.heritage-enviro.com (800)827-4374 Fax: (317) 486-5095

Customer name/number Bureau of Water Quality / Submitter # 1545  
 Project Name: Industrial Monitoring  
 Z Quote No: 141162  
 PO No. or Project/Activity ID: \_\_\_\_\_  
 PRINT HERITAGE TSR NAME: \_\_\_\_\_  
 CUSTOMER STATUS: Existing  
 If no previous credit has been established with Heritage, prepayment (check VISA, etc) is required at the time of sample submittal to the laboratory.

Sampled By: Laura V. Hanks Steve Stearns  
 Date Sampled: 4-20-11 Time Sampled: 1030 AM Sample ID and/or Location: 013-002  
 where your sample was taken  
 Number of Containers: 4 4  
 SVOC 4 VOC 4

Analyses Requested: \_\_\_\_\_  
 (Note special detection limits or methods)

Send Report To: Co Bureau of Water Quality  
 Add: 5150 W. Kilgore Ave.  
Memphis, TN 38117  
 Attn: Mr. Rick Carroll  
 Phone: (765) 747-4896  
 Fax: (765) 213-6444  
 E-mail: rcarroll@msdtn.com

Standards:  Rush Date: \_\_\_\_\_ Mo. Day Yr  
 (Accelerated TAT subject to Additional Charge)  
 (Data may be Accented and Accepted)

Remarks: EPA 824/025/002 (BIOLOGY)

Received by (Signature): Laura V. Hanks Date/Time: 4-20-11 1115  
 Received by (Signature): Steve Stearns  
 Received by (Signature): Steve Stearns Date/Time: 4-20-11 1430  
 Received by (Signature): \_\_\_\_\_  
 Received for Lab by (Signature): Heritage Lab Date/Time: 4-20-11 Name: 3 °C  
 Time: 1430 Loc: VEEY No. \_\_\_\_\_  
 Distribution: While original and copies to accompany sample to the laboratory this copy to be retained by the client.

Laboratory use only: Yes No  
 Custody seals present/intact?    
 Broken containers?    
 COC agree with sample labels?    
 Correct containers for testing?    
 Headspace issues acceptable?    
 Holding times acceptable?    
 Preservative pH's acceptable?    
 Was pH left unadjusted?

Comments: Sample clear Normal appearance



CONTACT INFORMATION:

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*"We have only one earth,*



*let's all work for its protection"*

*John M. Craddock*