



September 30, 2011

Environmental Restoration

16660 South Canal Street

South Holland, IL 60437-

Work Order No.: 1111050

Re: Advanced Plating/Indianapolis, IN

Dear Richie Byrd:

Microbac Laboratories, Inc. - Chicagoland Division received 10 sample(s) on 9/23/2011 2:00:00PM for the analyses presented in the following report as Work Order 1111050.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Jeff Loewe, Division Manager at [jeff.loewe@microbac.com](mailto:jeff.loewe@microbac.com). You may also contact Sean Hyde, Chief Operating Officer at [sean.hyde@microbac.com](mailto:sean.hyde@microbac.com) or James Nokes, President at [james.nokes@microbac.com](mailto:james.nokes@microbac.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Kevin Falvey", is written over a light blue horizontal line.

Kevin Falvey  
Account Manager

**WORK ORDER SAMPLE SUMMARY****Date:** Friday, September 30, 2011

**Client:** Environmental Restoration  
**Project:** Advanced Plating/Indianapolis, IN  
**Lab Order:** 1111050

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
1111050-01	PT-001		09/22/2011 14:20	9/23/2011 2:00:00PM
1111050-02	D-001-Total		09/22/2011 14:23	9/23/2011 2:00:00PM
1111050-03	D-001		09/22/2011 14:23	9/23/2011 2:00:00PM
1111050-04	D-001D-Total		09/22/2011 14:25	9/23/2011 2:00:00PM
1111050-05	D-001D		09/22/2011 14:23	9/23/2011 2:00:00PM
1111050-06	D-126		09/22/2011 14:30	9/23/2011 2:00:00PM
1111050-07	D-124		09/22/2011 14:35	9/23/2011 2:00:00PM
1111050-08	D-113		09/22/2011 14:40	9/23/2011 2:00:00PM
1111050-09	D-056		09/22/2011 14:45	9/23/2011 2:00:00PM
1111050-10	D-090		09/22/2011 14:50	9/23/2011 2:00:00PM



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**CASE NARRATIVE**

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**Date:** *Friday, September 30, 2011*

**Client:** Environmental Restoration  
**Project:** Advanced Plating/Indianapolis, IN  
**Lab Order:** 1111050

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The Laboratory Control Sample associated with the D-001 and D-001D samples failed the precision criteria for Cyanide.



## Analytical Results

Date: Friday, September 30, 2011

**Client:** Environmental Restoration  
**Client Project:** Advanced Plating/Indianapolis, IN  
**Client Sample ID:** PT-001  
**Sample Description:**  
**Matrix:** Oil

**Work Order/ID:** 1111050-01  
**Sampled:** 09/22/2011 14:20  
**Received:** 09/23/2011 14:00

Analyses	AT	Result	RL	Qual	Units	DF	Analyzed
Method: SW-846 1010			Analyst: TMG				
Ignitability (Closed Cup)			Prep Date/Time: 09/27/2011 15:29				
Ignitability	A	110	30		°F	1	09/27/2011 15:29



## Analytical Results

Date: Friday, September 30, 2011

**Client:** Environmental Restoration  
**Client Project:** Advanced Plating/Indianapolis, IN  
**Client Sample ID:** D-001-Total  
**Sample Description:**  
**Matrix:** Solid

**Work Order/ID:** 1111050-02  
**Sampled:** 09/22/2011 14:23  
**Received:** 09/23/2011 14:00

Analyses	AT	Result	RL	Qual	Units	DF	Analyzed
		Method: SW-846 9012B				Analyst: EINI K	
Total Cyanide		Prep Method: Solid CN Distillation				Prep Date/Time: 09/27/2011 10:40	
Cyanide, Total	A	15000	190		mg/Kg	200	09/28/2011 13:39



## Analytical Results

Date: Friday, September 30, 2011

Client:	Environmental Restoration		
Client Project:	Advanced Plating/Indianapolis, IN		
Client Sample ID:	D-001	Work Order/ID:	1111050-03
Sample Description:		Sampled:	09/22/2011 14:23
Matrix:	Solid	Received:	09/23/2011 14:00

Analyses	AT	Result	RL	Qual	Units	DF	Analyzed
Method: Chapter 7/9014			Analyst: EINI				
Prep Method: Solid Reactive CN Distillation			Prep Date/Time: 09/30/2011 08:50				
Reactive Cyanide	A	ND	9800		mg/Kg	200	09/30/2011 13:43



## Analytical Results

Date: Friday, September 30, 2011

**Client:** Environmental Restoration  
**Client Project:** Advanced Plating/Indianapolis, IN  
**Client Sample ID:** D-001D-Total  
**Sample Description:**  
**Matrix:** Solid

**Work Order/ID:** 1111050-04  
**Sampled:** 09/22/2011 14:25  
**Received:** 09/23/2011 14:00

Analyses	AT	Result	RL	Qual	Units	DF	Analyzed
		Method: <b>SW-846 9012B</b>				Analyst: <b>EINIK</b>	
<b>Total Cyanide</b>		Prep Method: <b>Solid CN Distillation</b>				Prep Date/Time: <b>09/27/2011 10:40</b>	
Cyanide, Total	A	8900	190		mg/Kg	200	09/28/2011 13:40



## Analytical Results

Date: Friday, September 30, 2011

Client:	Environmental Restoration		
Client Project:	Advanced Plating/Indianapolis, IN		
Client Sample ID:	D-001D	Work Order/ID:	1111050-05
Sample Description:		Sampled:	09/22/2011 14:23
Matrix:	Solid	Received:	09/23/2011 14:00

Analyses	AT	Result	RL	Qual	Units	DF	Analyzed
Method: Chapter 7/9014			Analyst: EINI				
Prep Method: Solid Reactive CN Distillation			Prep Date/Time: 09/30/2011 08:50				
Reactive Cyanide	A	ND	9900		mg/Kg	200	09/30/2011 13:45





## Analytical Results

Date: Friday, September 30, 2011

**Client:** Environmental Restoration  
**Client Project:** Advanced Plating/Indianapolis, IN  
**Client Sample ID:** D-126  
**Sample Description:**  
**Matrix:** Oil

**Work Order/ID:** 1111050-06  
**Sampled:** 09/22/2011 14:30  
**Received:** 09/23/2011 14:00

Analyses	AT	Result	RL	Qual	Units	DF	Analyzed
Method: SW-846 9045C			Analyst: ABG				
pH			Prep Date/Time: 09/28/2011 14:45				
pH	A	< 2.00	2.00		pH Units	1	09/28/2011 15:06



## Analytical Results

Date: Friday, September 30, 2011

**Client:** Environmental Restoration  
**Client Project:** Advanced Plating/Indianapolis, IN  
**Client Sample ID:** D-124  
**Sample Description:**  
**Matrix:** Oil

**Work Order/ID:** 1111050-07  
**Sampled:** 09/22/2011 14:35  
**Received:** 09/23/2011 14:00

Analyses	AT	Result	RL	Qual	Units	DF	Analyzed
Method: SW-846 9045C				Analyst: ABG			
pH				Prep Date/Time: 09/28/2011 14:45			
pH	A	< 2.00	2.00		pH Units	1	09/28/2011 15:06



## Analytical Results

Date: Friday, September 30, 2011

**Client:** Environmental Restoration  
**Client Project:** Advanced Plating/Indianapolis, IN  
**Client Sample ID:** D-113  
**Sample Description:**  
**Matrix:** Oil

**Work Order/ID:** 1111050-08  
**Sampled:** 09/22/2011 14:40  
**Received:** 09/23/2011 14:00

Analyses	AT	Result	RL	Qual	Units	DF	Analyzed
Method: SW-846 9045C			Analyst: ABG				
pH			Prep Date/Time: 09/28/2011 14:45				
pH	A	< 2.00	2.00		pH Units	1	09/28/2011 15:06



## Analytical Results

Date: Friday, September 30, 2011

**Client:** Environmental Restoration  
**Client Project:** Advanced Plating/Indianapolis, IN  
**Client Sample ID:** D-056  
**Sample Description:**  
**Matrix:** Oil

**Work Order/ID:** 1111050-09  
**Sampled:** 09/22/2011 14:45  
**Received:** 09/23/2011 14:00

Analyses	AT	Result	RL	Qual	Units	DF	Analyzed
Method: SW-846 9045C				Analyst: ABG			
pH				Prep Date/Time: 09/28/2011 14:45			
pH	A	< 2.00	2.00		pH Units	1	09/28/2011 15:06



## Analytical Results

Date: Friday, September 30, 2011

**Client:** Environmental Restoration  
**Client Project:** Advanced Plating/Indianapolis, IN  
**Client Sample ID:** D-090  
**Sample Description:**  
**Matrix:** Oil

**Work Order/ID:** 1111050-10  
**Sampled:** 09/22/2011 14:50  
**Received:** 09/23/2011 14:00

Analyses	AT	Result	RL	Qual	Units	DF	Analyzed
Method: SW-846 9045C				Analyst: ABG			
pH				Prep Date/Time: 09/28/2011 14:45			
pH	A	13.5	2.00		pH Units	1	09/28/2011 15:06

#### **FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)**

NA	=	Not Analyzed
mg/L	=	Milligrams per Liter (ppm)
mg/Kg	=	Milligrams per Kilogram (ppm)
U	=	Undetected
J	=	Analyte concentration detected between RL and MDL (Metals / Organics)
B	=	Detected in the associated method Blank at a concentration above the routine PQL/RL
D	=	Dilution performed on sample
ND	=	Not Detected at the Reporting Limit (or the Method Detection Limit, if used)
E	=	Value above quantitation range
H	=	Analyte was prepared and/or analyzed outside of the analytical method holding time
I	=	Matrix Interference
R	=	RPD outside accepted recovery limits
S	=	Spike recovery outside recovery limits
Surr	=	Surrogate
DF	=	Dilution Factor
RL	=	Reporting Limit
MDL	=	Method Detection Limit
NR	=	Not Recovered

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#### **ANALYTE TYPES: (AT)**

A,B	=	Target Analyte
I	=	Internal Standard
M	=	Summation Analyte
S	=	Surrogate
T	=	Tentatively Identified Compound (TIC, concentration estimated)

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#### **QC SAMPLE IDENTIFICATIONS**

MBLK	=	Method Blank	ICSA	=	Interference Check Standard "A"
DUP	=	Method Duplicate	ICSAB	=	Interference Check Standard "AB"
LCS	=	Laboratory Control Sample	LCSD	=	Laboratory Control Sample Duplicate
BS	=	Method Blank Spike	BSD	=	Method Blank Spike Duplicate
MS	=	Matrix Spike	MSD	=	Matrix Spike Duplicate
ICB	=	Initial Calibration Blank	CCB	=	Continuing Calibration Blank
ICV	=	Initial Calibration Verification	CCV	=	Continuing Calibration Verification
PDS	=	Post Digestion Spike	SD	=	Serial Dilution
OPR	=	Ongoing Precision and Recovery Standard			

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#### **CERTIFICATIONS**

*Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.*

The American Association for Laboratory Accreditation [A2LA] for Biological Testing, ISO/IEC 17025 (Certificate# 3045.01)

The American Association for Laboratory Accreditation [A2LA] for Environmental Department of Defense Testing, ISO/IEC 17025 (Certificate# 3045.02)

Illinois EPA for the analysis wastewater and solid waste in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (accreditation #200064)

Illinois Department of Public Health for the microbiological analysis of drinking water (registry #1755266)

Indiana DEM approved support laboratory for solid waste and wastewater analyses

Indiana SDH for the chemical analysis of drinking water (lab #C-45-03)

Indiana SDH for the microbiological analysis of drinking water (lab #M-45-8)

Kansas Department of Health and Environment for the analysis of drinking water, wastewater, and solid hazardous waste in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (Certificate No. E-10397)

Kentucky EPPC for the analysis of samples applicable to the Underground Storage Tank program (lab #75)

North Carolina DENR for the environmental analysis for NPDES effluent, surface water, groundwater, and pretreatment regulations(certificate #597)

Pennsylvania Department of Environmental Protection (Registration No.: 68-04863)

Wisconsin DNR for the chemical analysis of wastewater and solid waste (lab #998036710)

## COOLER INSPECTION

Client Name: Environmental Restoration

Work Order Number: 1111050

Checklist completed by: 9/23/2011 6:37:00PM Dave Bryant

Date: Friday, September 30, 2011

Date/Time Received: 09/23/2011 14:00

Received by: Dave Bryant

Reviewed by: 9/27/2011 KGF

Carrier Name: Microbac

Cooler ID: Default Cooler

Container/Temp Blank Temperature: 17.00°C

After-Hour Arrival?	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
Shipping container/cooler in good condition?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample containers?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
COC present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC included sufficient client identification?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC included sufficient sample collector information?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC included a sample description?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC agrees with sample labels?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC identified the appropriate matrix?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC included date of collection?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC included time of collection?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC identified the appropriate number of containers?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Samples in proper container/bottle?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Sample containers intact?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
All samples received within holding time?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
If the samples are preserved, are the preservatives identified?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	

If No, adjusted by: \_\_\_\_\_

COC included the requested analyses?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC signed when relinquished and received?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Samples received on ice?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Samples properly preserved?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Voa vials for aqueous samples have zero headspace?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>

Cooler Comments: \_\_\_\_\_

ANY "NO" EVALUATION (excluding After-Hour Receipt) REQUIRES CLIENT NOTIFICATION.

Sample ID	Client Sample ID	Comments
1111050-01	PT-001	use extreme caution when handle sample
1111050-02	D-001-Total	SEE TROY BEFORE BEGIN ANY PREP/ANALYSIS
1111050-03	D-001	SEE TROY BEFORE BEGIN ANY PREP/ANALYSIS
1111050-04	D-001D-Total	SEE TROY BEFORE BEGIN ANY PREP/ANALYSIS
1111050-05	D-001D	SEE TROY BEFORE BEGIN ANY PREP/ANALYSIS
1111050-06	D-126	use extreme caution when handle sample
1111050-07	D-124	use extreme caution when handle sample
1111050-08	D-113	use extreme caution when handle sample
1111050-09	D-056	use extreme caution when handle sample
1111050-10	D-090	use extreme caution when handle sample

